Ver. 1.1.2

H.264 Video Compression

Digital Video Recorder

User Guide

About This User Guide

Before operating the unit, please read this user guide thoroughly and retain it for future reference.

Warning

Cautions

1. **Read User Guide** – After unpacking this product, please read the user guide carefully, and follow all the operating and other instructions.
2. **Power Sources** – This product should be operated only from the type of power source indicated on the label. If not sure of the type of power supply, consult with the product dealer.
3. **Ventilation** – Slots and openings on the unit are for ventilation and to ensure reliable operating of the product and to protect it from overheating, and these openings must not be blocked or covered. The product is recommended to be placed in a well ventilated area.
4. **Heat** – The product should be placed away from heat sources such as radiators, stoves, and other products that produce heat.
5. **Water and Moisture** – Do not use this product near water. Do not exceed the humidity specifications for the product as detailed in the user guide.
6. **Cleaning** – Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use only compressed air to clean the product.
7. **Power Cord Protection** – Power-supply cords should not be routed so that they are likely to be walked on or pinched by items placed against them.
8. **Overloading** – DO not overload wall outlets; extension cords, or uninterruptible power supply.
9. **Lighting** – For added protection for this product during a storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the product due to lighting and power line surges.
10. **Object and Liquid** – Never insert foreign objects into the DVR, as it may touch dangerous voltage points or short-out parts that could result in a fire or electrical shock. Never spill liquid of any kind on the product.
11. **Accessories** – Do not place this product on an unstable cart; stand, tripod, bracket, or table. The product may fall, causing serious personal injury and serious damage to the product.
12. **Disc Tray** – Keep fingers well clear of the disc tray as it is closing. Neglecting to do so may cause serious personal injury and serious damage to the product.
13. **Burden** – No not place any heavy objects on the product.
14. **Disc** – Do not use a cracked, deformed, or repaired disc. These discs can be easily broken and may cause serious personal injury and cause product malfunction.
15. **Replaceable Batteries** – **CAUTION:** Risk of Explosion if the battery is replaced by an incorrect type. Dispose used batteries according to the instructions.
16. **Servicing** – Do not attempt to service this product. Opening or removing covers may expose the user to dangerous voltage or other hazards. Unauthorized substitutions may result in fire electric shock or other hazards. Serving should be performed only by a qualified and experienced personnel.

Notes

Handling

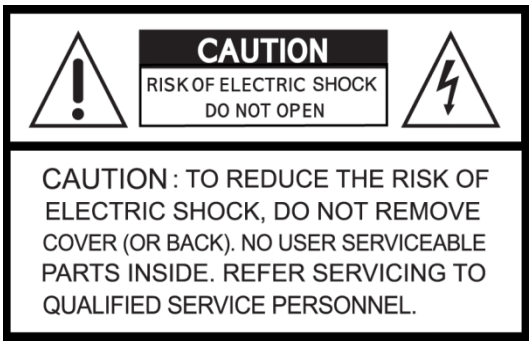
- Please retain the original shipping carton and/or packing materials supplied with this product. To ensure the integrity of this product when shipping or moving, repackage the unit as it was originally received. Do not use liquids, such as aerosol spray, near this product. Do not leave rubber or plastic objects in contact with this product for long periods of time. The product may become warm after long periods of use.

Locating

- Place the unit on a level surface. Do not place the unit on a shaky or unstable surface such as a wobbling table or an inclined stand. If the unit is placed next to a TV, radio, or VCR, the playback picture may become poor and the sound may be distorted. If this happens, place the unit away from the TV, radio, or VCR.

Maintenance

- This DVR is designed to last for long periods of time. To keep the DVR always operational, we recommend regular inspection maintenance (Cleaning or replacement). For details, contact the nearest dealer.



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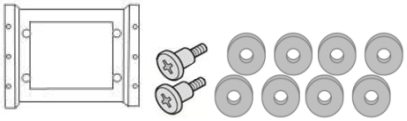
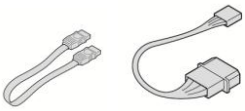
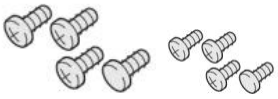
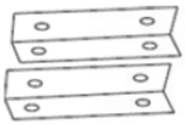
1. Product Components

Please make sure the following components are included as specified below.

DVR Set	Client Software CD, User Guide
Remote Control , Battery1.5V	Mouse
 HDD Mounting Bracket & Screw*	 SATA Cable, SATA Power Cable
 HDD & DVD-RW Mounting Screw	 HDD & DVD-RW Mounting Bracket
Power Cable & Power Adapter (1 EA)	Power Cable (110V or 220V) (1 EA)*

***For VVR4016HSFD, VVRHD1620M, and VVRHHD1002D only**

2. Features

- H.264 video compression
- QUADPLEX: Simultaneous live or playback while recording, network transfer, and backup
- USB 2.0 port for backup, firmware upgrade, configuration export/import, or USB mouse
- Individual channel operation such as FPS, quality, recording mode, & detection zone
- Various network access: Network client SW, web-viewer, smart phone APP, and CMS
- Remote setup and remote upgrade
- Remote access via PC, MAC®, or smart phones
- Recording by schedule, continuous, alarm, motion, or continuous
- Free DDNS server
- Bandwidth control
- E-mail event notification
- NTP (Network Time Protocol)
- Watermark
- Synchronized audio
- Bi-directional audio
- Time stamp over backup data
- Easy and various data backup via DVD, USB flash drive, USB external HDD, and network
- HDD S.M.A.R.T status check and alert via e-mail or internal beep
- USB mouse, IR remote control
- Multi OSD languages
- Made in Korea

3. Specifications

Please note that specifications and unit exterior design are subject to change without notification

3-1. VVR4004SEFD, VVR4008SE, VVR4016SE

Model			VVR4004SEFD	VVR4008SE	VVR4016SE
Recording Performance			D1 * 120FPS	CIF * 240FPS	CIF * 480FPS
Video	Input	Channel	4 channels	8 channels	16 channels
		Input Level	Composite, 1.0Vp-p, 75ohm		
	Output	VGA	1 VGA (Max. 1280x1024)		
		HDMI	-		
		HD-SDI	-		
		LOOP	-		
		BNC	1 (Switchable to SPOT)		
		SPOT			
Audio	Input & Output		1 Line input & 1 Line output		
	Audio Codec		G.711 (ADPCM)		
Alarm	Sensor Input		-		
	Alarm Output		-		
Record	Compression		H.264		
	Multi-operation		QUADPLEX (Playback/Record/Network/Backup)		
	Analog Resolution	D1	120fps	-	120fps
		Half D1	120fps	-	240fps
		CIF	120fps	240fps	480fps
	HD Resolution	1280X720	-	-	-
		1920X1080	-	-	-
	Recording quality grade		5 Grades		
	Recording Mode		Continuous/Schedule/Motion/Sensor/Manual		
	Motion Detection		Motion detection setup by Grid		
	Recording by channel's Resolution		Yes		
	Pre Recording		Up to 10 sec	Min. 15 seconds and Max. 20 minutes	
	Post Recording		Up to 30 sec	Min. 10 seconds and Max. 60 seconds	
Display	Frame Rate		Real time		
Playback	Multi-Decoding		1, 4	1, 4, 8	1, 4, 8, 16
	Playback Speed		x1/4 ~ x16	x1/4 ~ x16	x1/4 ~ x8
	Search Mode		Timeline, Event, Archive, Log		
Storage	HDD	Interface Type	Serial ATA I		
		Capacity of 1 HDD	2TB		
		Internal HDD Number	1EA		
	ESATA		-		
	Backup	USB Flash drive	Video & Still Image		

		USB External HDD	Video & Still Image		
		Network	Video & Still Image		
	USB Port		2 (Front 1, Rear 1)		
User I/F	Menu Display		GUI		
	Input Method		Mouse, Remote control		
Serial	PTZ control		-		
	Termination		-		
	Console (RS-232C)		-		
Network	Dynamic DNS		Yes		
	Network Interface		10/100 base-TX Ethernet (RJ-45)		
	Network Streaming		CIF @ 60fps	CIF @ 120fps	
Network Access	Web viewer (1:1)		Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade, Two Way Audio		
	3G Mobile Viewer (1:1)		Live, Search, PTZF, Two Way Audio		
	MAC viewer (1:1)		Live, Search, PTZF, Remote Setup, Remote Upgrade		
	Multi-sites Monitoring SW (1:n)		Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade, Two Way Audio		
Features	DLS (Day Light Saving)		Yes		
	Internal Beep		By Alarm, Motion, Video Loss, HDD error		
	S/W Upgrade		USB Flash drive, Remote Network		
	NTP		Yes		
Power	Power Supply Voltage		DC 12V 2.5A	DC 12V 5A	
Allowable operation temperature			5°C - 40°C		
Allowable operation humidity			0 - 90 %		
Weight	Unit Weight (Gross weight)		2.8 Lbs (4.4 Lbs)	3 Lbs (4.6 Lbs)	3.4 Lbs (6.6 Lbs)
Dimension	Unit Dimension (W x H x D)		10.6" x 7.5" x 1.8"	10.6" x 7.5" x 1.8"	13.3" x 10.2" x 2.5"

3-2. VVR4004HMFD, VVR4008HM, VVR4016HM

Model			VVR4004HMFD	VVR4008HM	VVR4016HM
Recording Performance			D1 * 120FPS	Half D1 * 240FPS	CIF * 480FPS
Video	Input	Channel	4 channels	8 channels	16 channels
		Input Level	Composite, 1.0Vp-p, 75ohm		
	Output	VGA	1 VGA (Max. 1080p)		
		HDMI	1 HDMI (Max. 1080p)		
		HD-SDI	-		
		LOOP	-		
		BNC	1 channel		
		SPOT	1 channel		
Audio	Input & Output		4 Line input & 1 Line output		
	Audio Codec		G.711 (ADPCM)		

Alarm	Sensor Input		4ch (NC/NO Selectable)		
	Alarm Output		1 Alarm out		
Record	Compression		H.264		
	Multi-operation		QUADPLEX (Playback/Record/Network/Backup)		
	Analog Resolution	D1	120fps	120fps	120fps
		Half D1	120fps	240fps	240fps
		CIF	120fps	240fps	480fps
	HD Resolution	1280X720	-	-	-
		1920X1080	-	-	-
	Recording quality grade		5 Grades		
	Recording Mode		Continuous/Schedule/Motion/Sensor/Manual		
	Motion Detection		Motion detection setup by Grid		
	Recording by channel's Resolution		Yes		
	Pre Recording		Min. 15 seconds and Max. 20 minutes		
	Post Recording		Min. 10 seconds and Max. 60 seconds		
Display	Frame Rate		Real time		
Playback	Multi-Decoding		1, 4	1, 4, 8	1, 4, 8, 16
	Playback Speed		x1/4 ~ x32	x1/4 ~ x16	x1/4 ~ x8
	Search Mode		Timeline, Event, Archive, Log		
Storage	HDD	Interface Type	Serial ATA I		
		Capacity of 1 HDD	2TB		
		Internal HDD Number	1EA (2EA without DVD-RW)		
	ESATA		1		
	Backup	USB Flash drive	Video & Still Image		
		USB External HDD	Video & Still Image		
		Network	Video & Still Image		
	USB Port		2 (Front 1, Rear 1)		
User I/F	Menu Display		GUI		
	Input Method		Mouse, Front Buttons, Remote control, Key Board		
Serial	PTZ control		1 RS-485		
	Termination		-		
	Console (RS-232C)		1 (for Development use only, Reserved for POS)		
Network	Dynamic DNS		Yes		
	Network Interface		10/100 base-TX Ethernet (RJ-45)		
	Network Streaming		CIF @ 60fps	CIF @ 120fps	CIF @ 240fps
Network Access	Web viewer (1:1)		Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade, Two Way Audio		
	3G Mobile Viewer (1:1)		Live, Search, PTZF, Two Way Audio		
	MAC viewer (1:1)		Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade		
	Multi-sites Monitoring SW (1:n)		Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade, Two Way Audio		

Features	DLS (Day Light Saving)	Yes
	Internal Beep	By Alarm, Motion, Video Loss, HDD error
	S/W Upgrade	USB Flash drive, Remote Network
	NTP	Yes
Power	Power Supply Voltage	DC 12V 5A
Allowable operation temperature		5°C - 40°C
Allowable operation humidity		0 - 90 %
Weight	Unit Weight (Gross weight)	3 Lbs (4.6 Lbs)
Dimension	Unit Dimension (W x H x D)	14.96" x 13.38" x 2.83"

3-3. VVR4008HFD, VVR4016HFD

Model			VVR4008HFD	VVR4016HFD
Recording Performance			D1 * 240FPS	D1 * 480FPS
Video	Input	Channel	8 channels	16 channels
		Input Level	Composite, 1.0Vp-p, 75ohm	
	Output	VGA	1 VGA (Max. 1080p)	
		HDMI	1 HDMI (Max. 1080p)	
		HD-SDI	-	
		LOOP	-	
		BNC	1 channel	
		SPOT	1 channel	
Audio	Input & Output		4 Line input & 1 Line output	
	Audio Codec		G.711 (ADPCM)	
Alarm	Sensor Input		4ch (NC/NO Selectable)	
	Alarm Output		1 Alarm out	
Record	Compression		H.264	
	Multi-operation		QUADPLEX (Playback/Record/Network/Backup)	
	Analog Resolution	D1	240fps	480fps
		Half D1	240fps	480fps
		CIF	240fps	480fps
	HD Resolution	1280X720	-	-
		1920X1080	-	-
	Recording quality grade		5 Grades	
	Recording Mode		Continuous/Schedule/Motion/Sensor/Manual	
	Motion Detection		Motion detection setup by Grid	
	Recording by channel's Resolution		Yes	
	Pre Recording		Min. 15 seconds and Max. 20 minutes	
	Post Recording		Min. 10 seconds and Max. 60 seconds	
Display	Frame Rate		Real time	
Playback	Multi-Decoding		1, 4, 8	1, 4, 8, 16

	Playback Speed		x1/4 ~ x64	
	Search Mode		Timeline, Event, Archive, Log	
Storage	HDD	Interface Type	Serial ATA I	
		Capacity of 1 HDD	3TB	
		Internal HDD Number	2EA (3EA without DVD-RW)	
	ESATA		1	
	Backup	USB Flash drive	Video & Still Image	
		USB External HDD	Video & Still Image	
		Network	Video & Still Image	
	USB Port		2 (Front 1, Rear 1)	
User I/F	Menu Display		GUI	
	Input Method		Mouse, Front Buttons, Remote control, Key Board	
Serial	PTZ control		1 RS-485	
	Termination		-	
	Console (RS-232C)		1 (for Development use only, Reserved for POS)	
Network	Dynamic DNS		Yes	
	Network Interface		10/100/1000 base-TX Ethernet (RJ-45)	
	Network Streaming		D1/CIF @ 240fps	D1/CIF @ 480fps
Network Access	Web viewer (1:1)		Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade, Two Way Audio	
	3G Mobile Viewer (1:1)		Live, Search, PTZF, Two Way Audio	
	MAC viewer (1:1)		Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade	
	Multi-sites Monitoring SW (1:n)		Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade, Two Way Audio	
Features	DLS (Day Light Saving)		Yes	
	Internal Beep		By Alarm, Motion, Video Loss, HDD error	
	S/W Upgrade		USB Flash drive, Remote Network	
	NTP		Yes	
Power	Power Supply Voltage		DC 12V 5A	
Allowable operation temperature			5°C - 40°C	
Allowable operation humidity			0 - 90 %	
Weight	Unit Weight (Gross weight)		9 Lbs (13.6 Lbs)	
Dimension	Unit Dimension (W x H x D)		14.96" x 13.38" x 2.83"	

3-4. VVR4016HSFD

Model			VVR4016HSFD
Recording Performance			D1 * 480FPS
Video	Input	Channel	16 channels
		Input Level	Composite, 1.0Vp-p, 75ohm
	Output	VGA	1 VGA (Max. 1080p)

		HDMI	1 HDMI (Max. 1080p)
		HD-SDI	-
		LOOP	16 channels
		BNC	1 channel
		SPOT	4 channel
Audio	Input & Output		16 Line input & 1 Line output
	Audio Codec		G.711 (ADPCM)
Alarm	Sensor Input		16ch (NC/NO Selectable)
	Alarm Output		4 Alarm out
Record	Compression		H.264
	Multi-operation		QUADPLEX (Playback/Record/Network/Backup)
	Analog Resolution	D1	480fps
		Half D1	480fps
		CIF	480fps
	HD Resolution	1280X720	-
		1920X1080	-
	Recording quality grade		5 Grades
	Recording Mode		Continuous/Schedule/Motion/Sensor/Manual
	Motion Detection		Motion detection setup by Grid
	Recording by channel's Resolution		Yes
	Pre Recording		Min. 15 seconds and Max. 20 minutes
	Post Recording		Min. 10 seconds and Max. 60 seconds
Display	Frame Rate		Real time
Playback	Multi-Decoding		1, 4, 8, 16
	Playback Speed		x1/4 ~ x32
	Search Mode		Timeline, Event, Archive, Log
Storage	HDD	Interface Type	Serial ATA I
		Capacity of 1 HDD	2TB
		Internal HDD Number	2EA (4EA without DVD-RW)
	ESATA		1
	Backup	USB Flash drive	Video & Still Image
		USB External HDD	Video & Still Image
		Network	Video & Still Image
	USB Port		2 (Front 1, Rear 1)
User I/F	Menu Display		GUI
	Input Method		Mouse, Front Buttons, Remote control, Key Board
Serial	PTZ control		2 RS-485
	Termination		2
	Console (RS-232C)		1 (for Development use only, Reserved for POS)
Network	Dynamic DNS		Yes

	Network Interface	10/100/1000 base-TX Ethernet (RJ-45)
	Network Streaming	CIF/D1 @ 480fps
Network Access	Web viewer (1:1)	Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade, Two Way Audio
	3G Mobile Viewer (1:1)	Live, Search, PTZF, Two Way Audio
	MAC viewer (1:1)	Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade
	Multi-sites Monitoring SW (1:n)	Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade, Two Way Audio
Features	DLS (Day Light Saving)	Yes
	Internal Beep	By Alarm, Motion, Video Loss, HDD error
	S/W Upgrade	USB Flash drive, Remote Network
	NTP	Yes
Power	Power Supply Voltage	AC 100~120V/200~240V, 50/60Hz, 280W
Allowable operation temperature		5°C - 40°C
Allowable operation humidity		0 - 90 %
Weight	Unit Weight (Gross weight)	15.0 Lbs (19.8 Lbs)
Dimension	Unit Dimension (W x H x D)	17.00" x 16.92" x 3.86"

3-5. VVRHD0405M, VVRHD0805M, VVRHD1620M

Model			VVRHD0405M	VVRHD0805M	VVRHD1620M
Recording Performance			720p * 48FPS / 1080P * 20FPS	720p * 120FPS / 1080P * 40FPS	720p * 192FPS / 1080P * 80FPS
Video	Input	Channel	4 channels	8 channels	16 channels
		Input Level	HDcctv/HD-SDI		
	Output	VGA	1 VGA (Max. 1080p)		
		HDMI	1 HDMI (Max. 1080p)		
		HD-SDI	-	-	1 channel
		LOOP			
		BNC			
		SPOT			
Audio	Input & Output		4 Line input & 1 Line output	8 Line input & 1 Line output	16 Line input & 1 Line output
	Audio Codec		G.711 (ADPCM)		
Alarm	Sensor Input		4ch (NC/NO Selectable)	8ch (NC/NO Selectable)	16ch (NC/NO Selectable)
	Alarm Output		1 Alarm out	2 Alarm out	4 Alarm out
Record	Compression		H.264		
	Multi-operation		QUADPLEX (Playback/Record/Network/Backup)		
	Analog Resolution	D1	-	-	-
		Half D1	-	-	-
		CIF	-	-	-
	HD	1280X720	48fps	96fps	192fps

	Resolution	1920X1080	20fps	40fps	80fps
	Recording quality grade		5 Grades		
	Recording Mode		Continuous/Schedule/Motion/Sensor/Manual		
	Motion Detection		Motion detection setup by Grid		
	Recording by channel's Resolution		Yes		
	Pre Recording		Min. 15 seconds and Max. 20 minutes		
	Post Recording		Min. 10 seconds and Max. 60 seconds		
Display	Frame Rate		Real time		
Playback	Multi-Decoding		1, 4	1, 4, 8	1, 4, 8, 16
	Playback Speed		x1/4 ~ x32	x1/4 ~ x16	x1/4 ~ x8
	Search Mode		Timeline, Event, Archive, Log		
Storage	HDD	Interface Type	Serial ATA I		
		Capacity of 1 HDD	2TB		
		Internal HDD Number	1EA (2EA without DVD-RW)		2EA (4EA without DVD-RW)
	ESATA		1		
	Backup	USB Flash drive	Video & Still Image		
		USB External HDD	Video & Still Image		
		Network	Video & Still Image		
	USB Port		2 (Front 1, Rear 1)		
User I/F	Menu Display		GUI		
	Input Method		Mouse, Front Buttons, Remote control, Key Board		
Serial	PTZ control		1 RS-485		2 RS-485
	Termination		1		2
	Console (RS-232C)		1 (for Development use only)		
Network	Dynamic DNS		Yes		
	Network Interface		10/100/1000 base-TX Ethernet (RJ-45)		
	Network Streaming		640x360 / 320x180 @ 120fps	640x360 / 320x180 @ 240fps	1280x720 / 640x360 @ 240fps
Network Access	Web viewer (1:1)		Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade, Two Way Audio		
	3G Mobile Viewer (1:1)		Live, Search, PTZF, Two Way Audio		
	MAC viewer (1:1)		Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade		
	Multi-sites Monitoring SW (1:n)		Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade, Two Way Audio		
Features	DLS (Day Light Saving)		Yes		
	Internal Beep		By Alarm, Motion, Video Loss, HDD error		
	S/W Upgrade		USB Flash drive, Remote Network		
	NTP		Yes		
Power	Power Supply Voltage		DC 12V 5A		AC 100~120V/200~240V, 50/60Hz, 280W
Allowable operation temperature			5°C - 40°C		5°C - 40°C

Allowable operation humidity		0 - 90 %	0 - 90 %
Weight	Unit Weight (Gross weight)	9 Lbs (13.6 Lbs)	15.0 Lbs (19.8 Lbs)
Dimension	Unit Dimension (W x H x D)	14.96" x 13.38" x 2.83"	17.00" x 16.92" x 3.86"

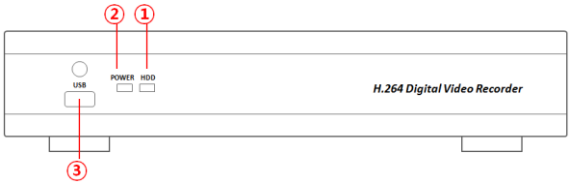
3-6. VVRHHD1002D

Model				VVRHHD1002D
Recording Performance				Analog: D1 Real time HD: 720P * 60FPS / 1080P * 30FPS
Video	Input		Channel	10 channels
			Input Level	8 CH Composite, 1.0Vp-p, 75ohm & 2 CH HDcctv/HD-SDI
	Output		VGA	1 VGA (Max. 1080p)
			HDMI	1 HDMI (Max. 1080p)
			HD-SDI	-
			LOOP	Analog 8 channels
			BNC	1 channel
			SPOT	4 channel
Audio	Input & Output			10 Line input & 1 Line output
	Audio Codec			G.711 (ADPCM)
Alarm	Sensor Input			10ch (NC/NO Selectable)
	Alarm Output			4 Alarm out
Record	Compression			H.264
	Multi-operation			QUADPLEX (Playback/Record/Network/Backup)
	Analog Resolution		D1	240fps
			Half D1	240fps
			CIF	240fps
	HD Resolution		1280X720	60fps
			1920X1080	30fps
	Recording quality grade			5 Grades
	Recording Mode			Continuous/Schedule/Motion/Sensor/Manual
	Motion Detection			Motion detection setup by Grid
	Recording by channel's Resolution			Yes
	Pre Recording			Min. 15 seconds and Max. 20 minutes
	Post Recording			Min. 10 seconds and Max. 60 seconds
Display	Frame Rate			Real time
Playback	Multi-Decoding			1, 4
	Playback Speed			x1/4 ~ x32
	Search Mode			Timeline, Event, Archive, Log
Storage	HDD		Interface Type	Serial ATA I
			Capacity of 1 HDD	2TB
			Internal HDD Number	2EA (4EA without DVD-RW)

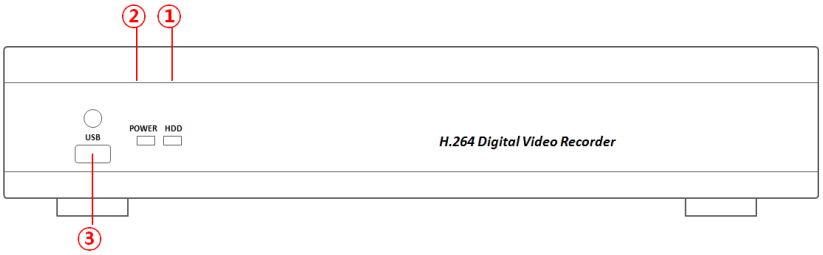
	ESATA		1
	Backup	USB Flash drive	Video & Still Image
		USB External HDD	Video & Still Image
		Network	Video & Still Image
	USB Port		2 (Front 1, Rear 1)
User I/F	Menu Display		GUI
	Input Method		Mouse, IR Remote control, Key Board Control
Serial	PTZ control		2 RS-485
	Termination		2
	Console (RS-232C)		1 (for Development use only)
Network	Dynamic DNS		Yes
	Network Interface		10/100/1000 base-TX Ethernet (RJ-45)
	Network Streaming		640*360 / 1280*720 @ 120fps
Network Access	Web viewer (1:1)		Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade, Two Way Audio
	3G Mobile Viewer (1:1)		Live, Search, PTZF, Two Way Audio
	MAC viewer (1:1)		Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade
	Multi-sites Monitoring SW (1:n)		Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade, Two Way Audio
Features	DLS (Day Light Saving)		Yes
	Internal Beep		By Alarm, Motion, Video Loss, HDD error
	S/W Upgrade		USB Flash drive, Remote Network
	NTP		Yes
Power	Power Supply Voltage		AC 100~120V/200~240V, 50/60Hz, 280W
Allowable operation temperature			5°C - 40°C
Allowable operation humidity			0 - 90 %
Weight	Unit Weight (Gross weight)		15.0 Lbs (19.8 Lbs)
Dimension	Unit Dimension (W x H x D)		17.00" x 16.92" x 3.86"

4. Front Panel Controls

4-1. VVR4004SEFD, VVR4008SE, VVR4016SE



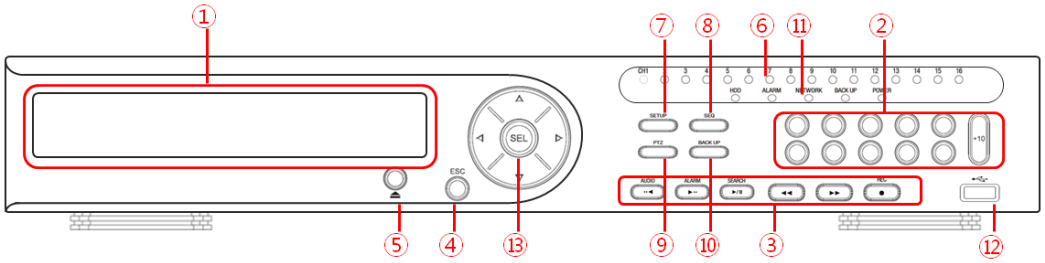
VVR4004SEFD, VVR4008SE



VVR4016SE

1	**Recording Indicator** Indicator LED when a specific CHANNEL is recording.
2	**Power Indicator** Indicator LED when DVR is powered ON.
3	**USB Port** Allows the user to connect a USB mouse or USB flash drive for BACK UP.

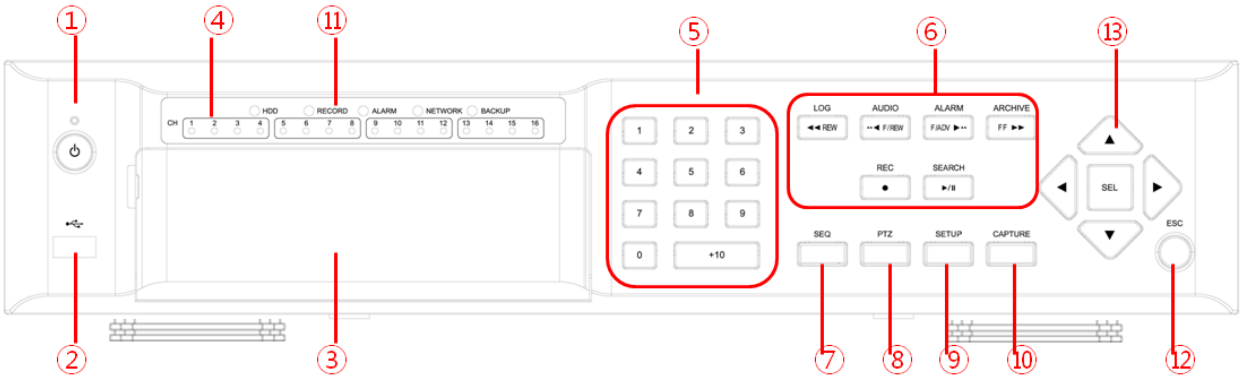
4-2. VVR4004HMFD, VVR4008HM, VVR4016HM, VVR4008HFD, VVR4016HFD



1	**Optical Drive Door**
2	**Camera Selection** Allows the user to select specific channels for single channel view.
3	**Playback Buttons**

	Allows the user to change playback settings, set manual RECORDING, and enter PLAYBACK mode.
4	**Escape (ESC)** Exit from current menu or stop playback.
5	**Eject** Ejects optical drive disc tray.
6	**Recording Indicator** Indicator LED when a specific CHANNEL is recording.
7	**Setup** Allows the user to enter the SETUP menu.
8	**Sequence** Allows the user to Enable/Disable Sequence in LIVE MODE.
9	**PTZ** Allows the user to enter the PTZ menu.
10	**Backup** Allows the user to capture a snapshot during LIVE MODE.
11	**Indicator LED** Indicator LED blinks for HDD, ALARM, NETWORK, BACK UP, and POWER.
12	**USB Port** Allows the user to connect a USB mouse or USB flash drive for BACK UP.
13	**Control Buttons** Control Buttons for selecting CHANNELS and navigating through the SETUP MENU.

4-3. VVR4016HSFD, VVRHD1620M, VVRHHD1002D

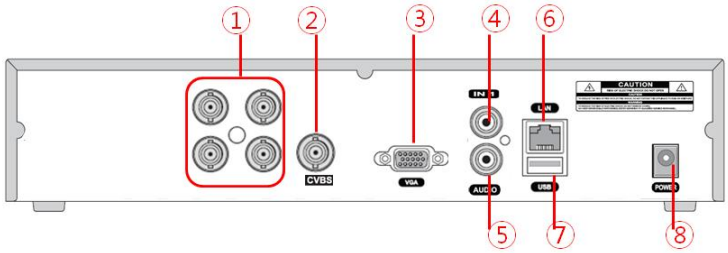


1	**Power Button**
2	**USB Port** Allows the user to connect a USB mouse or USB flash drive for BACK UP.
3	**Optical Drive Door** **Playback Buttons** Allows the user to change playback settings, set manual RECORDING, and enter PLAYBACK mode.
4	**Recording Indicator** Indicator LED when a specific CHANNEL is recording.
5	**Camera Selection**

	Allows the user to select specific channels for single channel view.
6	**Playback Buttons** Allows the user to change playback settings, set manual RECORDING, and enter PLAYBACK mode.
7	**Sequence** Allows the user to Enable/Disable Sequence in LIVE MODE.
8	**PTZ** Allows the user to enter the PTZ menu.
9	**Setup** Allows the user to enter the SETUP menu.
10	**Backup** Allows the user to capture a snapshot during LIVE MODE.
11	**Indicator LED** Indicator LED blinks for HDD, ALARM, NETWORK, BACK UP, and POWER.
12	**Escape (ESC)** Exit from current menu or stop playback.
13	**Control Buttons** Control Buttons for selecting CHANNELS and navigating through the SETUP MENU.

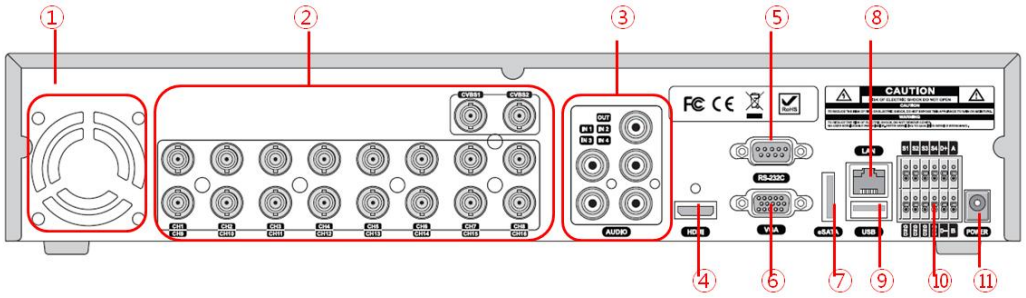
5. Rear Panel Connectors

5-1. VVR4004SEFD, VVR4008SE, VVR4016SE



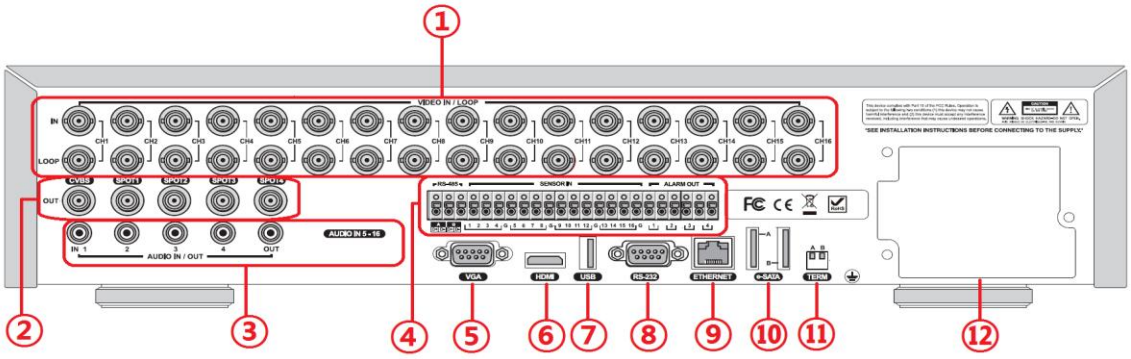
1	**Video Input**
2	**CVBS Video Output**
3	**VGA Output**
4	**Audio Input**
5	**Audio Output**
6	**Network RS-45 Ethernet Port**
7	**USB Port**
8	**DC12V Power Input**

5-2. VVR4004HMFD, VVR4008HM, VVR4016HM, VVR4008HFD, VVR4016HFD



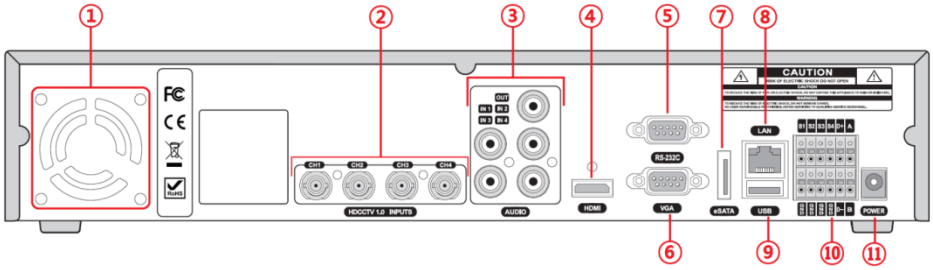
1	Cooling Fan
2	Video Input & Video Output
3	Audio Input
4	HDMI Video Output
5	RS 232 Terminal (For testing purposes)
6	VGA Output
7	eSATA Port
8	Network RS-45 Ethernet Port
9	USB Port
10	RS-485 PTZ Camera control terminal
11	DC12V Power Input

5-3. VVR4016HSFD

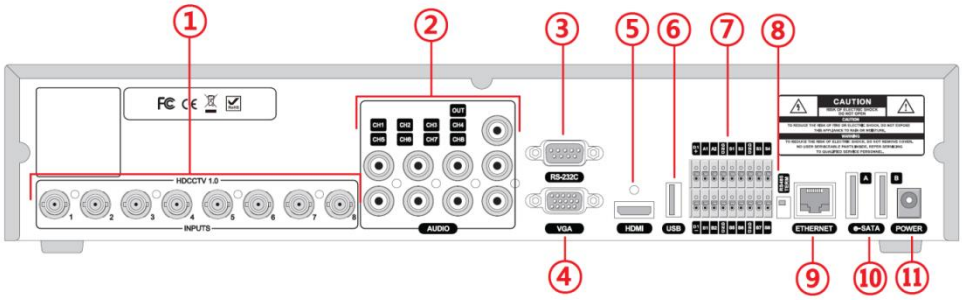


1	Video Input & Loop Out
2	Video Output
3	Audio Input
4	RS-485 PTZ Camera control terminal & Sensor In terminal
5	VGA Output
6	HDMI Output
7	USB Port
8	RS 232 Terminal (For testing purposes)
9	Network RS-45 Ethernet Port
10	eSATA Port
11	RS-485 Termination
12	DC12V Power Input

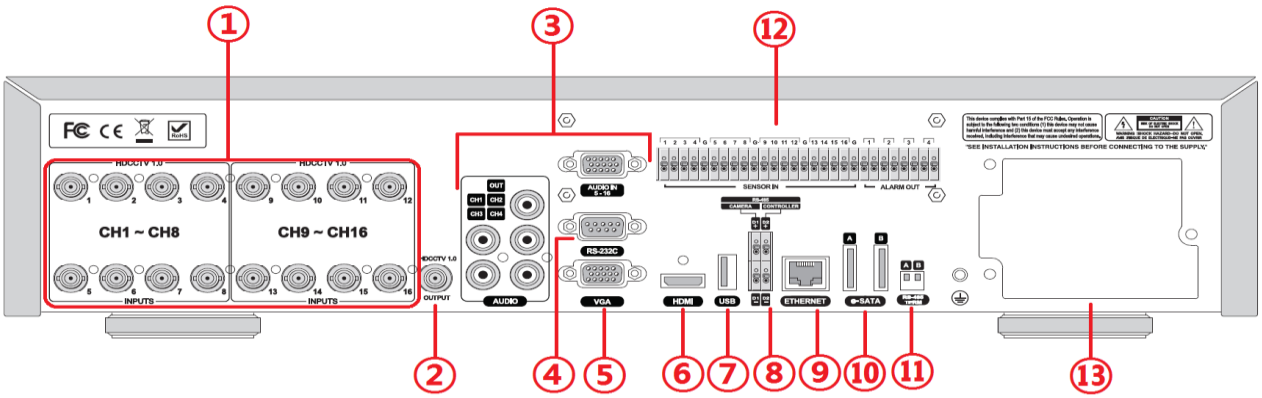
5-4. VVRHD0405M, VVRHD0805M, VVRHD1620M



1	Cooling Fan
2	HD-SDI Video Input
3	Audio Input
4	HDMI Video Output
5	RS 232 Terminal (For testing purposes)
6	VGA Output
7	eSATA Port
8	Network RS-45 Ethernet Port
9	USB Port
10	RS-485 PTZ Camera control terminal
11	DC12V Power Input



1	HD-SDI Video Input
2	Audio Input
3	RS 232 Terminal (For testing purposes)
4	VGA Output
5	HDMI Video Output RS 232 Terminal (For testing purposes)
6	USB Port
7	RS-485 PTZ Camera control terminal
8	RS-485 Termination
9	Network RS-45 Ethernet Port
10	eSATA Port RS-485
11	DC12V Power Input



1	Video Input & Loop Out
2	Video Output
3	Audio Input
4	RS 232 Terminal (For testing purposes)
5	VGA Output
6	HDMI Output
7	USB Port
8	RS-485 PTZ Camera control terminal
9	Network RS-45 Ethernet Port
10	eSATA Port
11	RS-485 Termination
12	Sensor In terminal
13	DC12V Power Input

6. Remote Control

RECORD	Manual recording
DISPLAY	Display of Full, Quad,9 or 16 split screen
F/REW	Jump 60 seconds backward
PLAY/PAUSE	Play/Pause
F/ADV	Jump 60 seconds forward
REW	Rewind
BACKUP	Backup still or video data
FF	Fast Forward
ALARM	Disable alarm operation
SETUP	Setup menu screen
ID	DVR ID (ID Button + DVR ID number)
AUDIO	Mute, Single, MIX
LOCK	Lock all of key functions
SEQ	Sequence of Full or Quad view
PTZ	PTZ menu screen
SEARCH	Search menu screen
DIRECTION KEY	Direction key
SELECT	Select or display of split screen
ESC	Esc
NUMBER 1~9,0	Channel 1 to 9 / 10 CH->press 0
+10	Channel 11 to 16 11CH->press +10 and number 1 16CH->press +10 and number 6

7. Connection Guide

7-1. Connecting the Monitor

There are three available monitor outputs on the DVR.

High-Definition Multimedia Interface – HDMI (Not for VVR4004SEFD, VVR4008SE, VVR4016SE)

- Video Graphics Array – VGA Mini-Sub D15
- Composite Monitor Output – BNC
- HD-SDI Monitor Output – BNC (For VVRHD1620M only)

7-2. Video Inputs

The DVR comes with 4/8/16 BNC video inputs on the rear of its chassis. The HD DVR only accepts HD-SDI Cameras.

7-3. Connecting to a Network

Use the RJ45 Ethernet port on the rear of the DVR When connecting to a network.

7-4. Connecting Audio

To record audio on the DVR, connect the audio source to the connections on the audio ports on the back of the DVR. To listen to live or recorded audio, connect the Audio Out Port to an amplified speaker system.

7-5. Connecting a PTZ Camera

The RS485 connector can be used to control Pan / Tilt / Zoom (PTZ) cameras. Refer to the PTZ camera manufacture's manual for configuring the RS485 connection. (Not for VVR4004SEFD, VVR4008SE, & VVR4016SE)

7-6. Turning on the DVR

1. Connect camera cables.
2. Connect a network cable and a monitor cable.
3. Connect the power cable to the DVR and wait until the main screen is displayed on the connected monitor; this process will take approximately three minutes.

7-7. Using the Power Button

To start the DVR:

Press the Power button on the front panel of the DVR.

NOTE: Only authorized users can shut down the DVR.

NOTE: Do not hold the power button when turning on the DVR.

7-8. Setting the Remote Controller ID

When more than one HD DVR is installed in the same location, it is possible to use one remote controller to control multiple DVRs – up to 99 DVRs. To control multiple DVRs, the remote controller ID and the DVR remote control ID must match.

To change the remote controller ID:

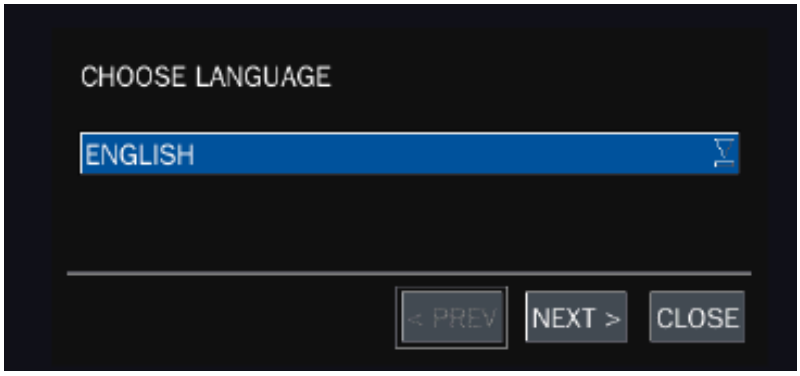
1. Press ID.
2. Input the ID number.

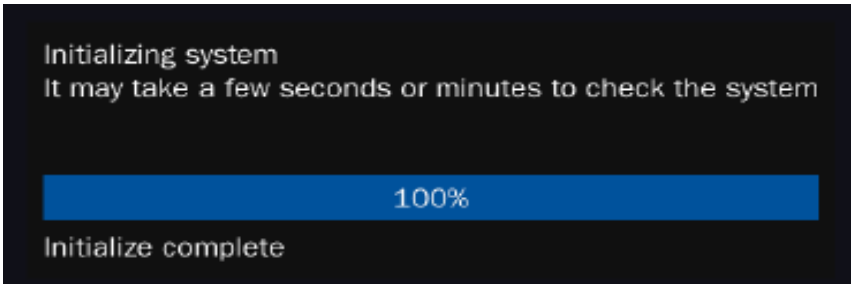
To change the DVR remote controller ID:

1. Enter SETUP.
2. Select DEVICE.
3. Highlight REMOTE CONTROL ID and use the arrow keys to change the ID.

7-9. First Time Booting

During the first start booting, the following message will be displayed.





Select the preferred LANGUAGE and SET DATE & TIME to complete the INITIALIZATION.

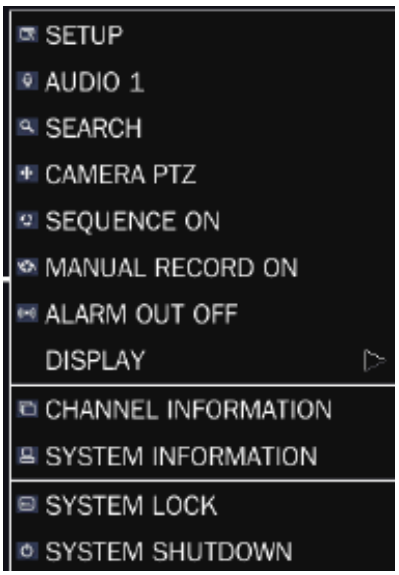
7-10. Basic Mouse Functions

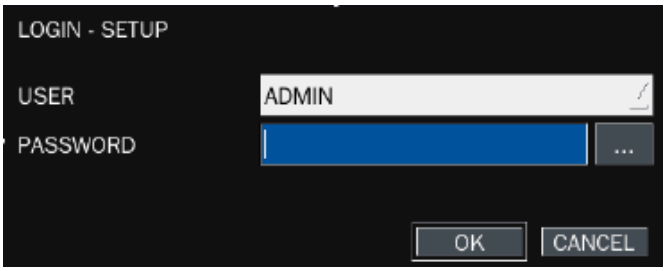
- LEFT CLICK – SELECT Function or Change Screen Mode
- RIGHT CLICK – Open Sub Menu or Cancel

8. SETUP MENU

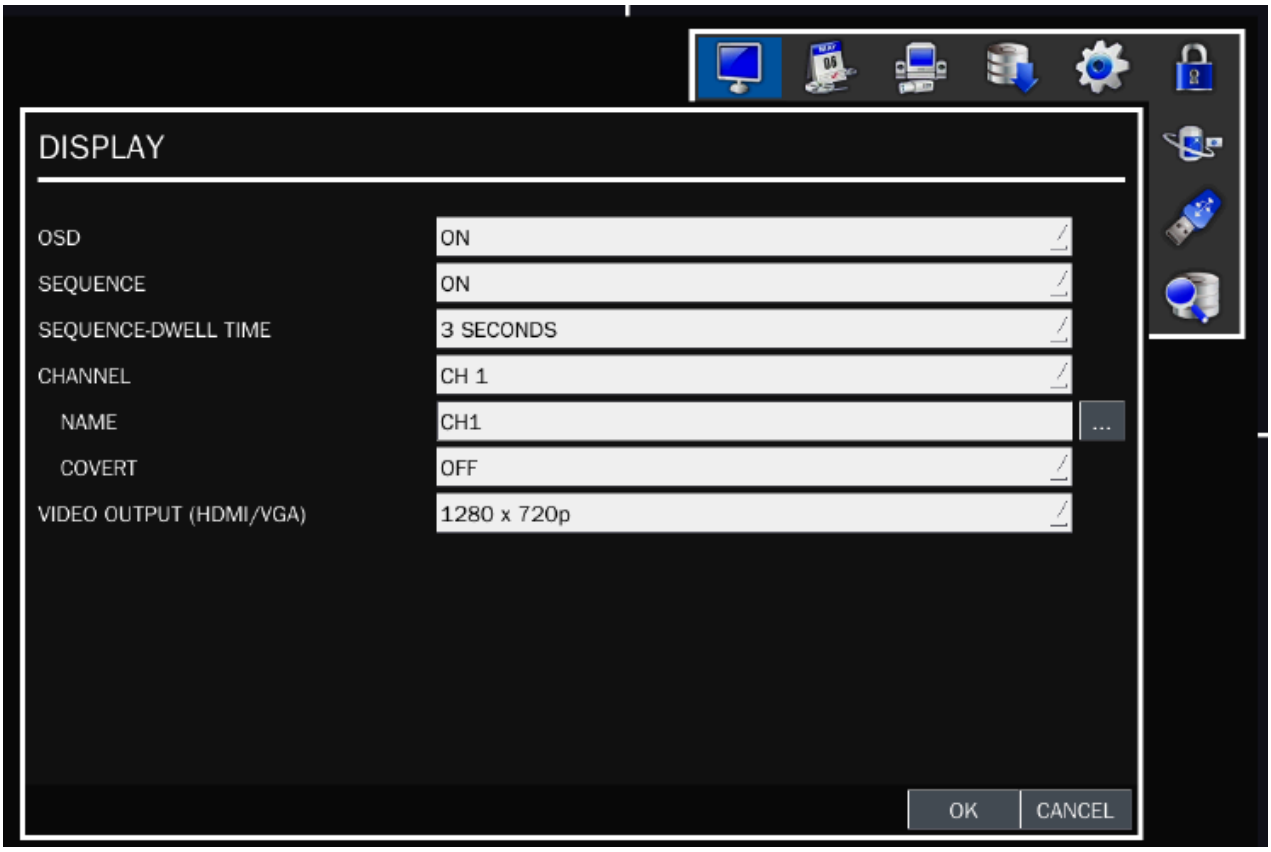
Use the setup menu to configure all of the DVR settings, schedule recording, and networking.

To enter SETUP, press the SETUP button on the front of the DVR or remote control or by using the mouse. RIGHT CLICK to open the SUB MENU. LEFT CLICK SETUP and enter the USER PASSWORD using the VIRTUAL KEYBOARD.

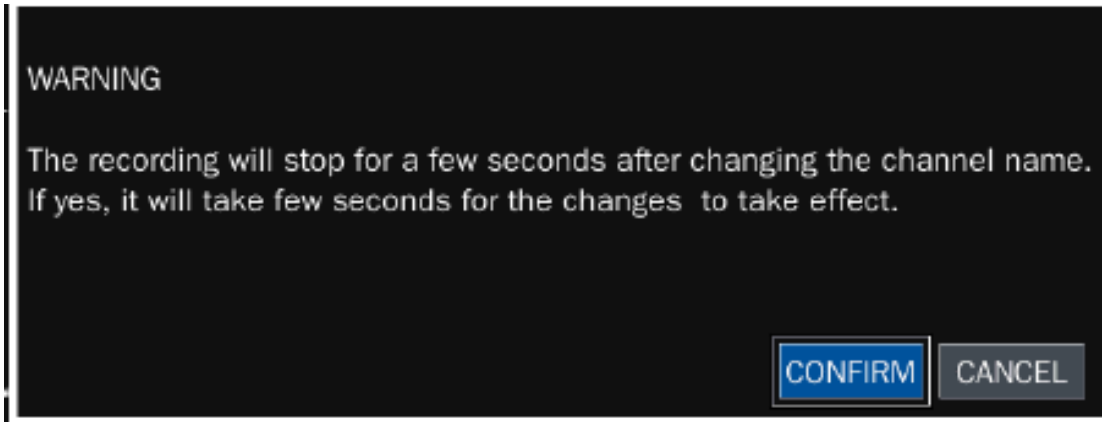




8-1. DISPLAY Setup



- **OSD –** Channel Name, Video Loss, Status Bad (Allows the user to Turn ON/OFF the selected On Screen Displays)
- **OSD CONTRAST** – 50 ~ 100 (Allows the user to Set the transparency of the setup window)
- **SEQUENCE** – ON/OFF (Allows the user to Turn ON/OFF the main monitor Sequence)
- **SEQUENCE-DWELL TIME** – 3 ~ 60 SECONDS (Allows the user to Set the SEQUENCE-DWELL TIME)
- **CHANNEL** – CH 1 ~ CH 16 (Allows the user to Select the channel to make adjustments)
    - **NAME** – Allows the user to change the default CHANNEL NAME.

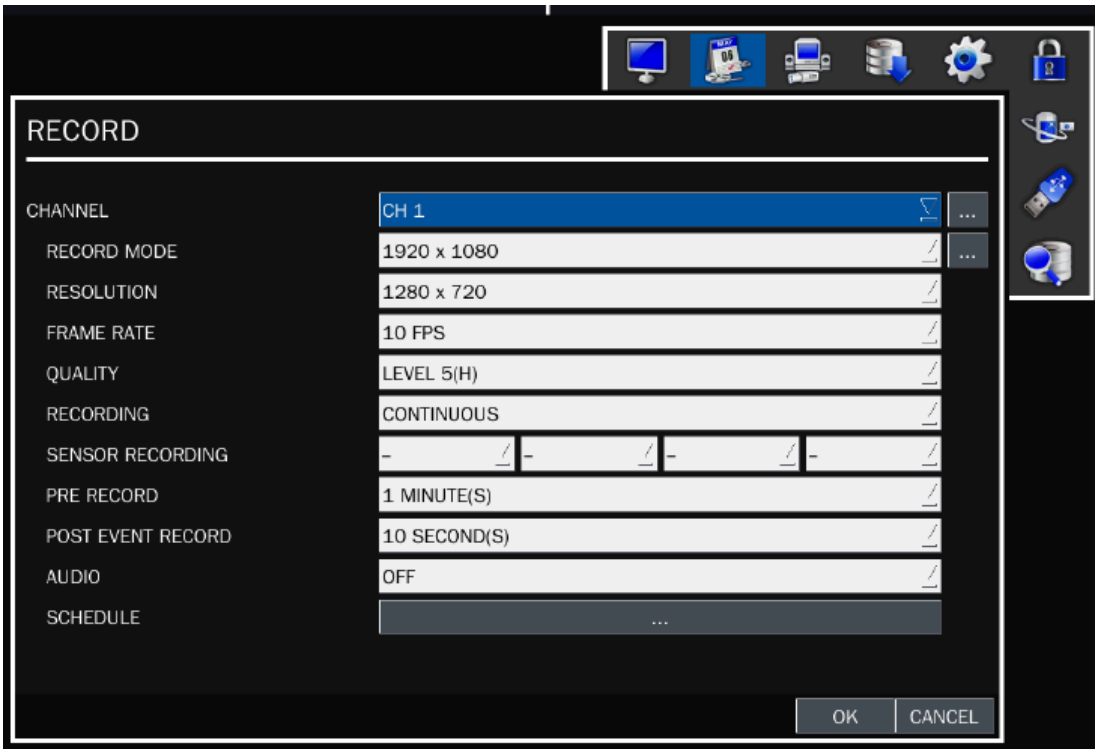


NOTE: Recording will stop for a few seconds after applying the CHANNEL NAME change.

- **NAME** – Press CONFIRM on the WARNING prompt window to enter the VIRTUAL KEYBOARD. Using the VIRTUAL KEYBOARD, enter the desired CHANNEL NAME and press OK to apply the changes.
- **COVERT –** ON/OFF (Allows the user to turn ON/OFF COVERT for the highlighted CHANNEL)

- **VIDEO OUTPUT (HDMI/VGA)** – 720p 50Hz/60Hz, 1080i 50Hz/60Hz, 1080p 50Hz/60Hz (Allows user to set monitor output resolution)

8-2. RECORD Setup

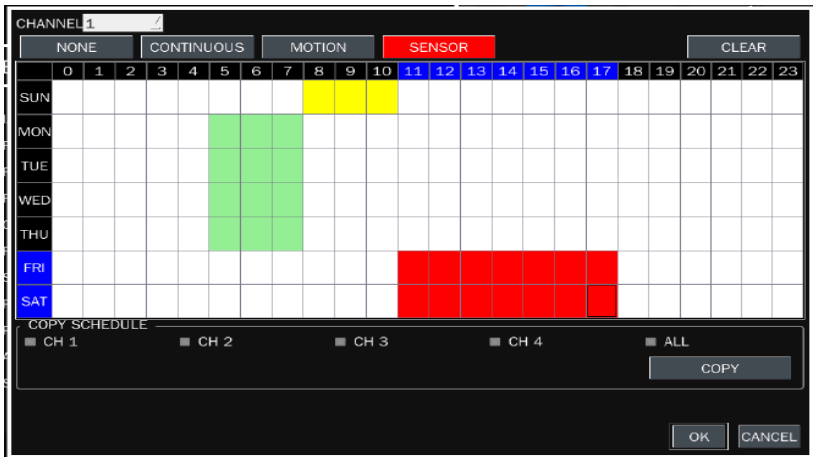


- **CHANNEL** – CH 1 ~ CH 16 (Allows the user to select CHANNEL to make adjustments)
  - **RESOLUTION** – 640 x 360, 1280 x 720, 1920 x 1080 (Allows the user to change the recording RESOLUTION of the selected CHANNEL)
  - **FRAME RATE** – # ~ # (Allows the user to change the recording FRAME RATE of the selected CHANNEL)

- **QUALITY** – LEVEL 1 ~ LEVEL 5 (Allows the user to change the recording QUALITY of the selected CHANNEL)
- **RECORDING** – CONTINUOUS, MOTION, SENSOR, SCHEDULE, DISABLE (Allows the user to change the RECORDING type of the selected CHANNEL)
- **SENSOR RECORDING** – Allows the user to set up to 4 sensors for selected CHANNEL.
- **PRE RECORD** – OFF, 15 SECONDS, 30 SECONDS, 1 MINUTE, 3 MINUTES, 20 MINUTES (Allows the user to set PRE RECORDING for selected CHANNEL)
- **POST EVENT RECORD** – 10 SECONDS ~ 30 SECONDS, 60 SECONDS (Allows the user to set POST EVENT RECORDING for selected CHANNEL)
- **AUDIO –** ON/OFF (Allows the user to turn ON/OFF AUDIO recording for selected channel)

Select the icon to open the RECORD menu. This menu allows the user to change multiple RECORDING settings simultaneously. The following settings are available; RESOLUTION, FPS, QUALITY, RECORD, PRE RECORD, POST RECORD, and AUDIO.

- **SCHEDULE** – Allows the user to set recording SCHEDULE.

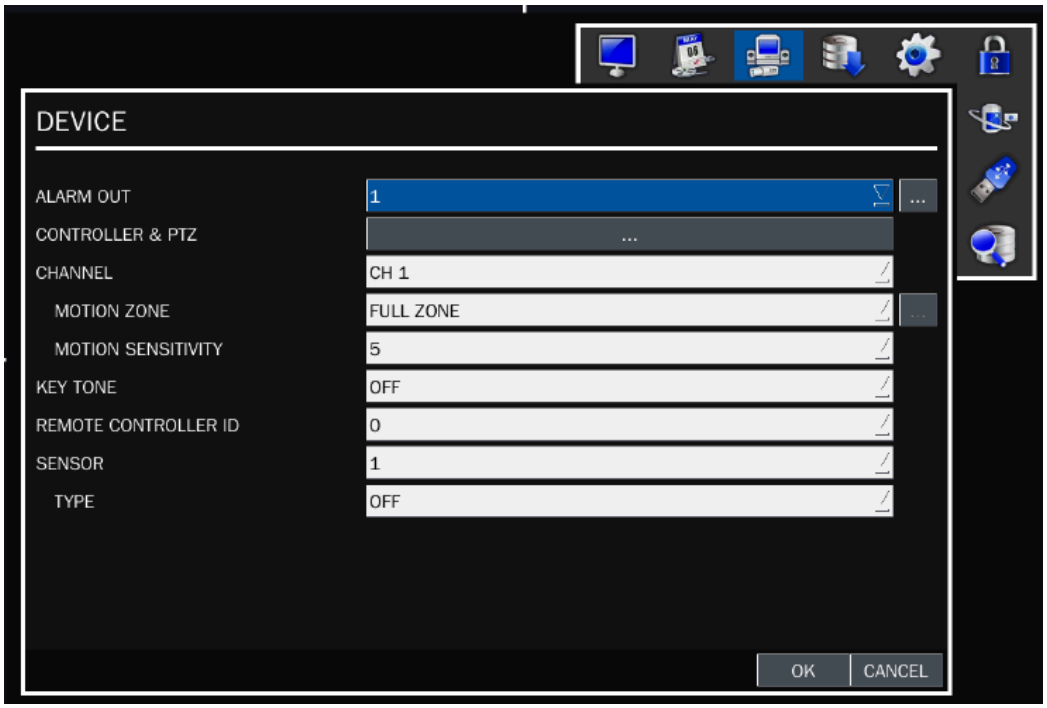


Select the icon to open the SCHEDULE menu.

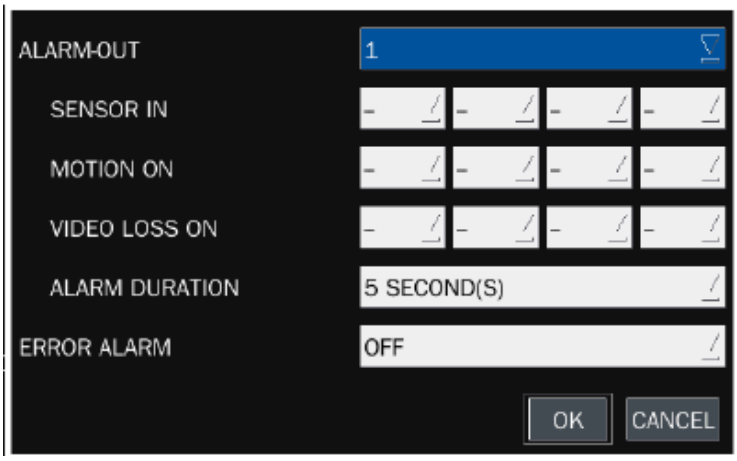
The following recording options are available;

- Continuous Recording (Green)
- Motion Recording (Yellow)
- Sensor Recording (Red)
- **COPY** – To copy a schedule, LEFT CLICK the checkbox for the target CHANNEL and LEFT CLICK the COPY button on the right to apply the changes to the selected CHANNELS.

8-3. DEVICE Setup



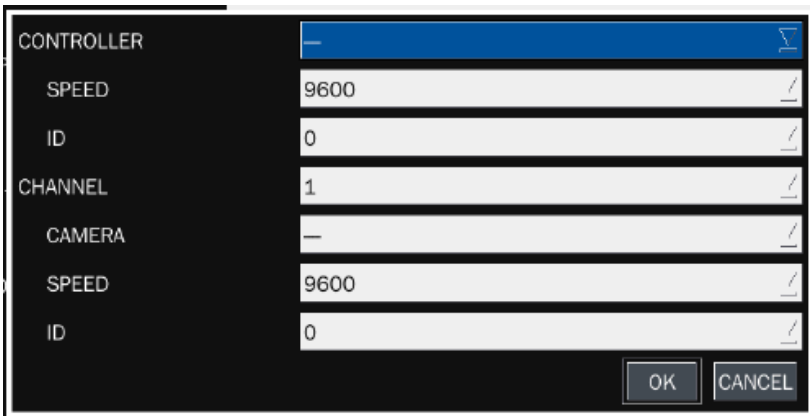
- **ALARM-OUT** – SENSOR, MOTION, VIDEO LOSS, HDD ERROR (Allow the user to set ALARM-OUT relay)



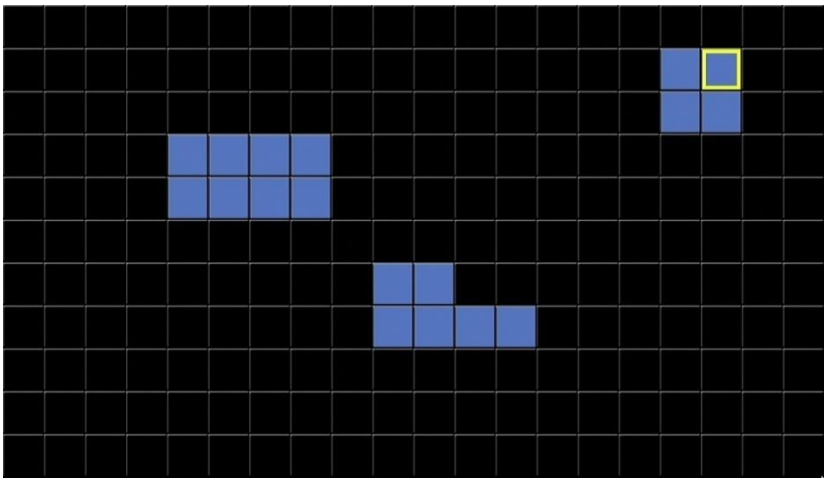
  - **ALARM-OUT –** Allows the user to select a specific alarm output terminal
  - **SENSOR IN –** Allows the user to set ALARM-OUT when SENSOR-IN is triggered.
  - **MOTION ON –** Allows the user to set ALARM-OUT when MOTION is triggered.
  - **VIDEO LOSS ON –** Allows the user to set ALARM-OUT when VIDEO LOSS is detected.
  - **ALARM DURATION –** 1 SECOND ~ 60 SECONDS (Allows the user to set ALARM-OUT DURATION)
  - **ERROR ALARM –** OFF, ALL, HDD ERROR, VIDEO LOSS (Allows the user to set ERROR ALARM for SPECIFIC ERROR)

- **ALL –** ALARM-OUT enabled when HDD ERROR or VIDEO LOSS is detected.
- **HDD ERROR –** ALARM-OUT enabled when HDD ERROR is detected.
- **VIDEO LOSS –** ALARM-OUT enabled when VIDEO LOSS is detected.

- **CONTROLLER & PTZ** – Allows the user to setup CONTROLLER & PTZ



  - **CONTROLLER –** Allows the user to select CONTROLLER protocol
    - **SPEED** – Allows the user to select CONTROLLER SPEED
    - **ID** – Allows the user to select CONTROLLER SPEED
  - **CAMERA PTZ** – Allows the user to select PTZ CAMERA CHANNEL
    - **NAME** – Allows the user to select PTZ protocol
    - **SPEED** – Allows the user to set PTZ SPEED
    - **ID** – Allows the user to select PTZ ID
- **CHANNEL** – CH 1 ~ 16 (Allows the user to select CHANNEL for MOTION setting)
    - **MOTION ZONE** – FULL ZONE, PARTIAL ZONE (Allows the user to select MOTION ZONE)



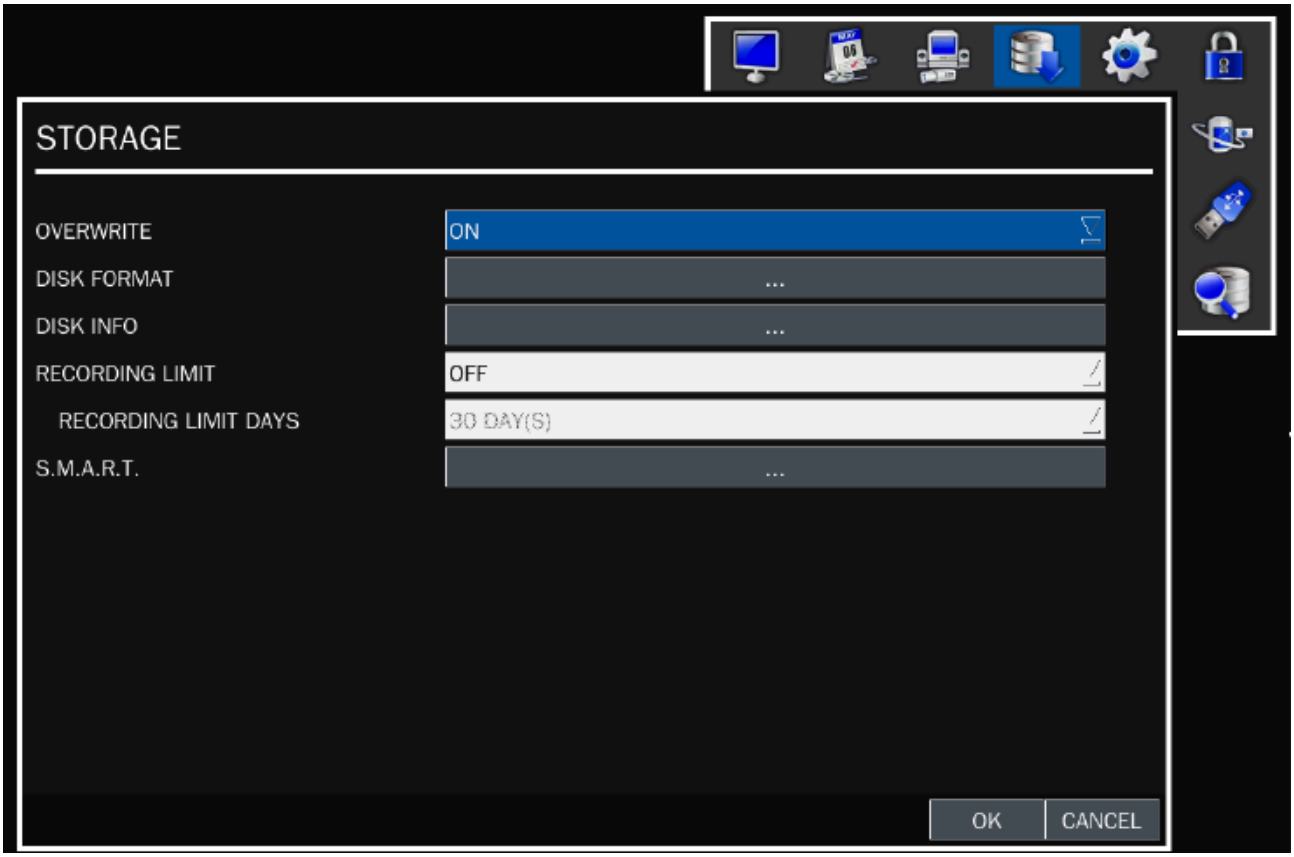
LEFT CLICK on to highlight the **motion zone grid. Highlighted area indicates partial motion detection zone displayed in blue**. RIGHT CLICK on the mouse to return to the previous screen.

  - **MOTION SENSITIVITY** – 1 ~ 9 (Allows the user to set MOTION SENSITIVITY)

NOTE: Camera noise will be detected as MOTION depending on MOTION SENSITIVITY.

- **KEY TONE** – OFF, ON (Allows the user to turn KEY TONE OFF or ON)
- **REMOTE CONTROL ID** – 00 ~ 99 (Allows the user to set REMOTE CONTROL ID)
- **SENSOR** – 1 ~ 4 (Allows the user to select SENSOR Number)
    - **TYPE** – OFF, NORMAL OPEN, NORMAL CLOSE (Allows the user to set SENSOR TYPE)

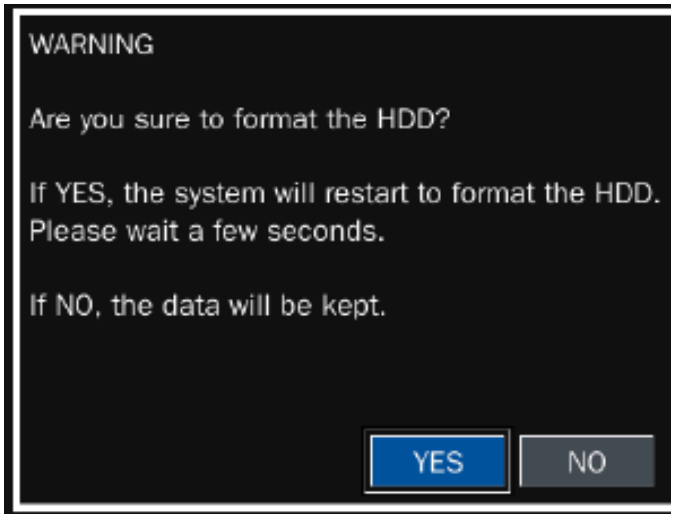
8-5. STORAGE Setup



- **OVERWRITE** – ON, OFF (Allows the user to set OVERWRITE of the HDD ON or OFF)

NOTE: Enabling OVERWRITE will allow the DVR to write over previously recorded data, starting with the oldest date, when the HDD is FULL. If OVERWRITE is OFF, the DVR will not record any new data once the HDD becomes full.

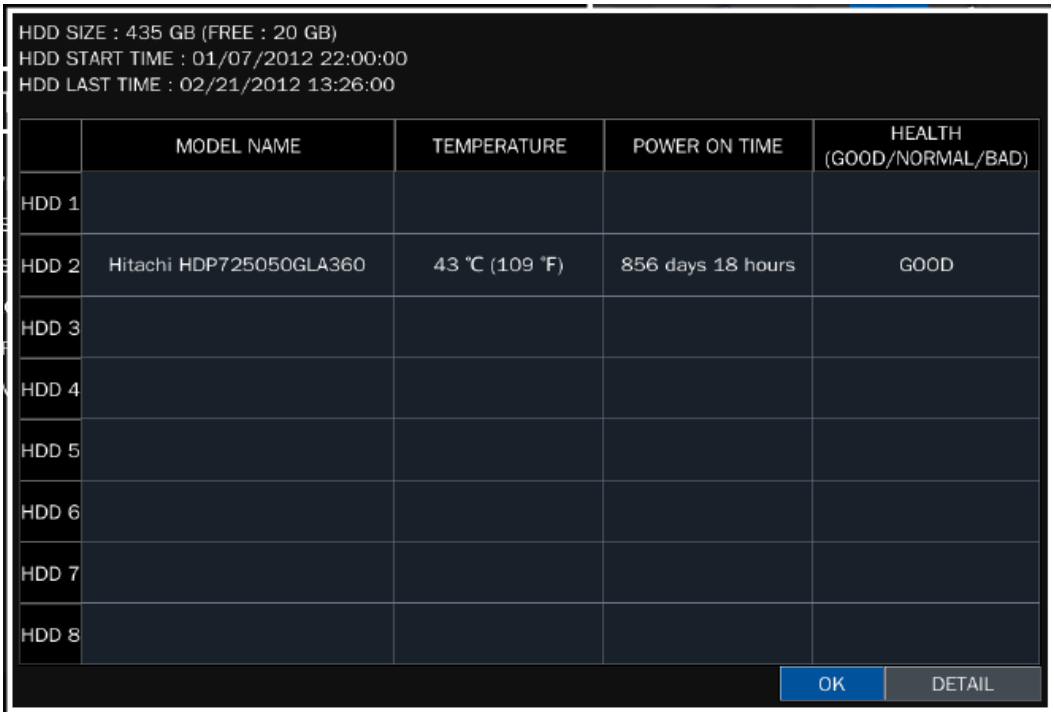
- **DISK FORMAT** – YES, NO (Allows the user to FORMAT the HDD)



NOTE: The user will not be able to recover the RECORDED DATA from a formatted HDD.

FORMAT- Select the HDD to format and select YES to FORMAT the HDD.

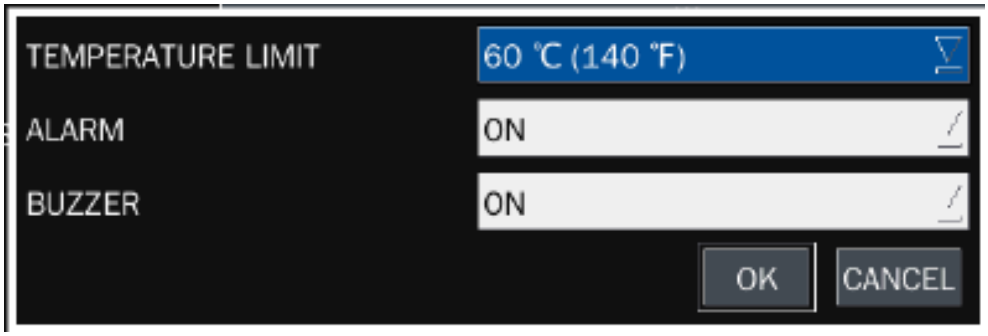
- **DISK INFO** – Displays HDD info (Displays the following info; HDD SIZE, REMAIN, START TIME, LAST TIME, HDD #, HDD MODEL NAME, HDD TEMPERATURE, HDD POWER, HDD HEALTH)



DISK INFO DETAIL – Displays HDD INFO DETAIL (Displays the following info; HDD #, REALLOCATED SECTORS, CURRENT PENDING SECOTRS, UNCORRECTABLE SECTORS, SPIN RETRY SECTORS)

HELP – Displays S.M.A.R.T HELP information.

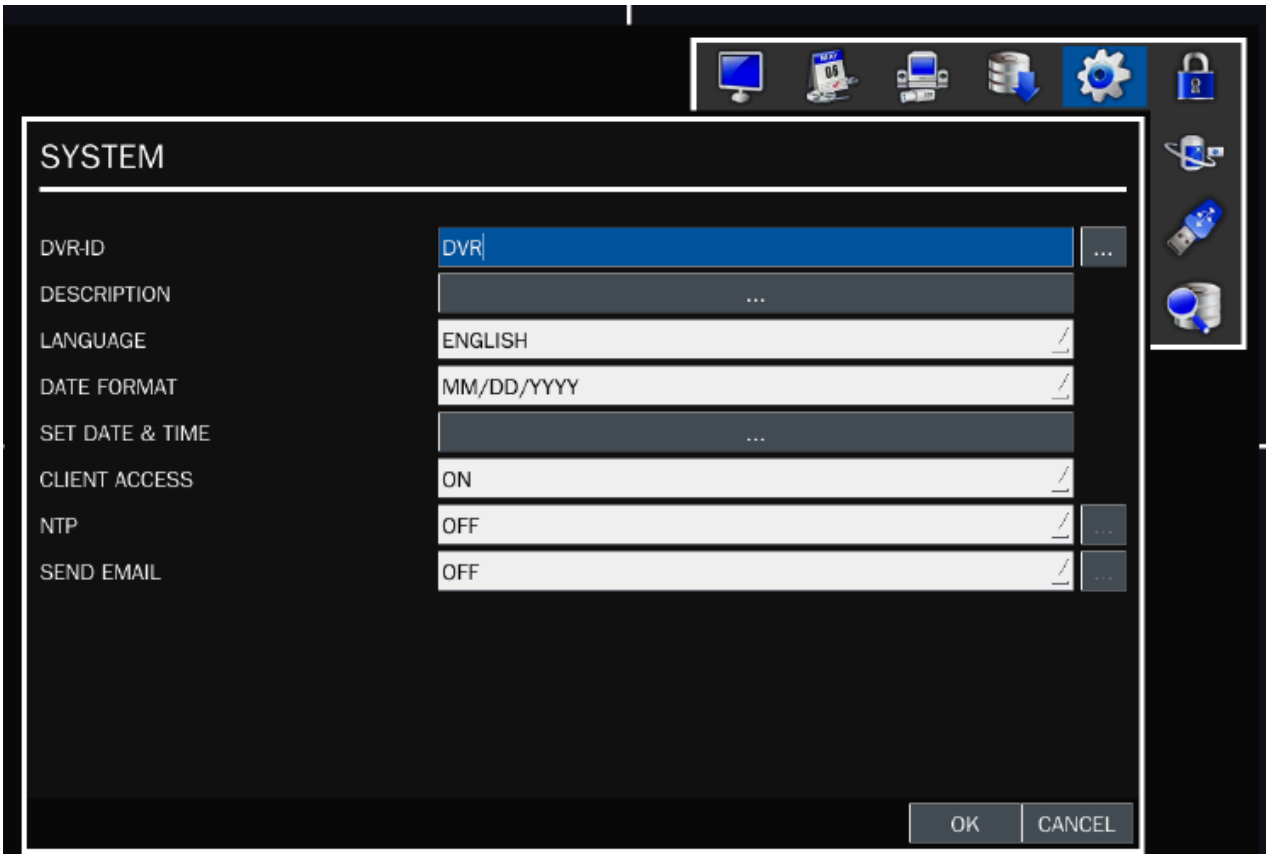
- **RECORDING LIMIT** – OFF, ON (Allows the user to set the RECORDING LIMIT)
  - **RECORDING LIMIT DAYS** – 1 DAY ~ 90 DAYS (Allows the user to set RECORDING LIMIT DAYS)
- **S.M.A.R.T** – ON, OFF (Allows the user to set S.M.A.R.T feature ON or OFF)



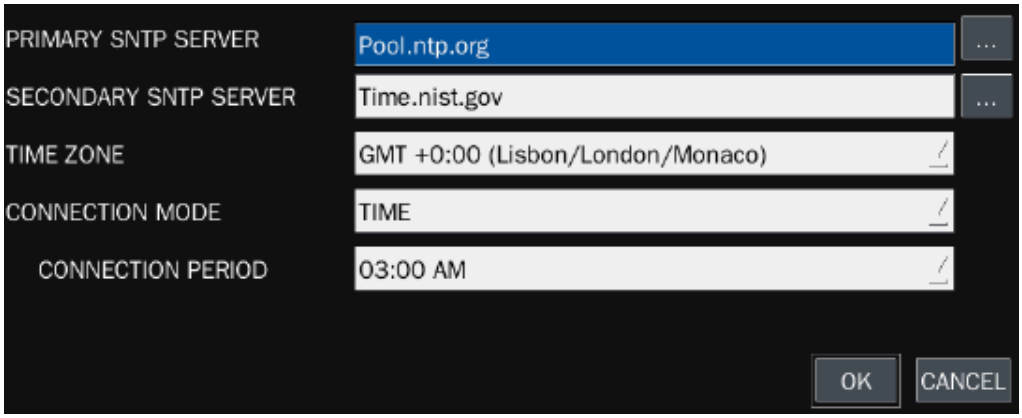
  - **TEMPERATURE LIMIT** – 20 ~ 55 (Allows the user to set the HDD TEMPERATURE LIMIT to trigger ALARM and BUZZER)
  - **ALARM** – ON, OFF (Allows the user to set ALARM ON or OFF)
  - **BUZZER –** ON, OFF (Allows the user to set BUZZER ON or OFF)

NOTE: The recommended operating temperature for the HDD is between 40C to 50C (104F to 122F)

8-6. SYSTEM Setup



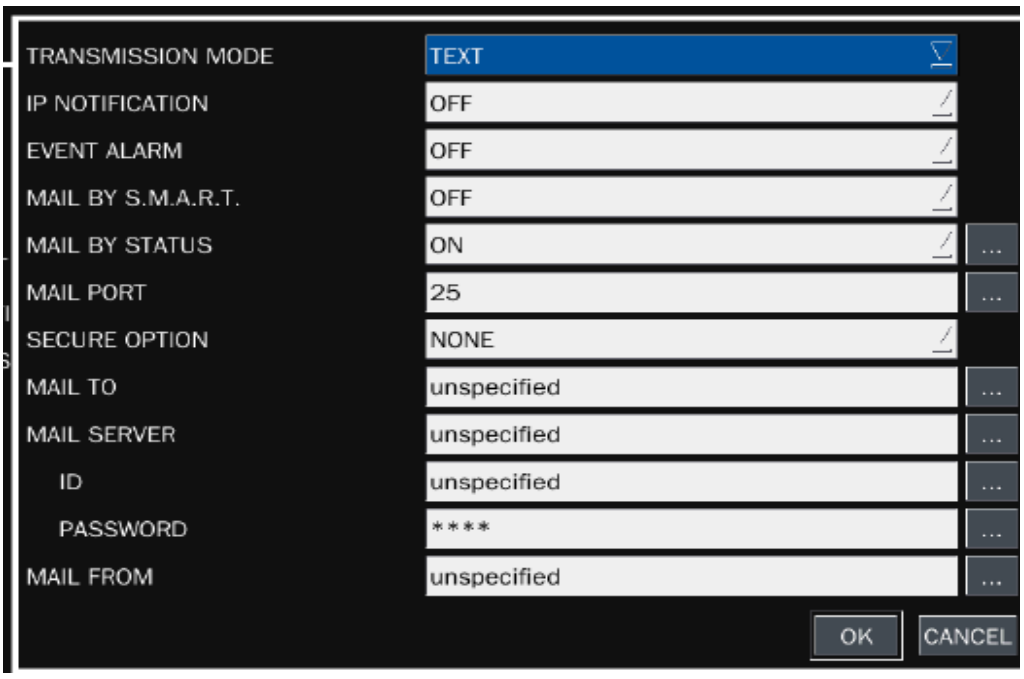
- **DVR ID** – Allows user to change the DVR ID
- **DESCRIPTION** – Displays the following system information; HARDWARE VERSION, SOFTWARE VERSION, STORAGE SIZE, IP ADDRESS, MAC ADDRESS, DDNS STATUS
- **LANGUAGE** – ENGLISH, FRENCH, GERMAN, JAPANESE, CHINESE (Allows the user to change the LANGUAGE setting)
- **DATE FORMAT** – Allows the user to change the DATE FORMAT display from the following; YYYY/MM/DD, MM/DD/YYYY, DD/MM/YYYY, YYYY-MM-DD, MM-DD-YYYY, DD-MM-YYYY.
- **SET DATE & TIME** – Allows the user to change the DAYLIGHT SAVING, DATE, and TIME.
- **DAYLIGHT SAVING** – USA, EU, OTHERS, OFF (Allows the user to set the DAYLIGHT SAVING)
- **SET DATE & TIME** – Double LEFT CLICK on the DATE & TIME to make changes. Select YES or NO when prompted to SET DATE & TIME to APPLY the changes.
- **CLIENT ACCESS** – ON, OFF (Allows the user to set CLIENT ACCESS ON or OFF)
- **NTP** – OFF, ON (Allows the user to set NTP OFF or ON)



NTP – Allows the user to set the following options; PRIMARY SNTP SERVER, SECONDARY SNTP SERVER, TIME ZONE, CONNECTION MODE (TIME, INTERVAL), CONNECTION PERIOD

- **PRIMARY SNTP SERVER –** PRIMARY SNTP (Simple Network Time Protocol) SERVER
- **SECONDARY SNTP SERVER –** SECONDARY SNTP (Simple Network Time Protocol) SERVER
- **TIME ZONE –** Allows the user to set the TIME ZONE
- **CONNECTION MODE –** INTERVAL, TIME, ONCE (Allows the user to select the SNTP CONNECTION MODE)
  - **INTERVAL** – Synchronize SNTP EVER 1 HOUR ~ 24 HOURS
  - **TIME** – Synchronize SNTP at the set TIME
  - **ONCE** – Synchronize SNTP ONCE
- **CONNECTION PERIOD –** Allows the user to set the SNTP Synchronize CONNECTION PERIOD when setting the CONNECTION MODE to INTERVAL or TIME

- **SEND EMAIL** – OFF, ON (Allows the user to set SEND EMAIL OFF or ON)

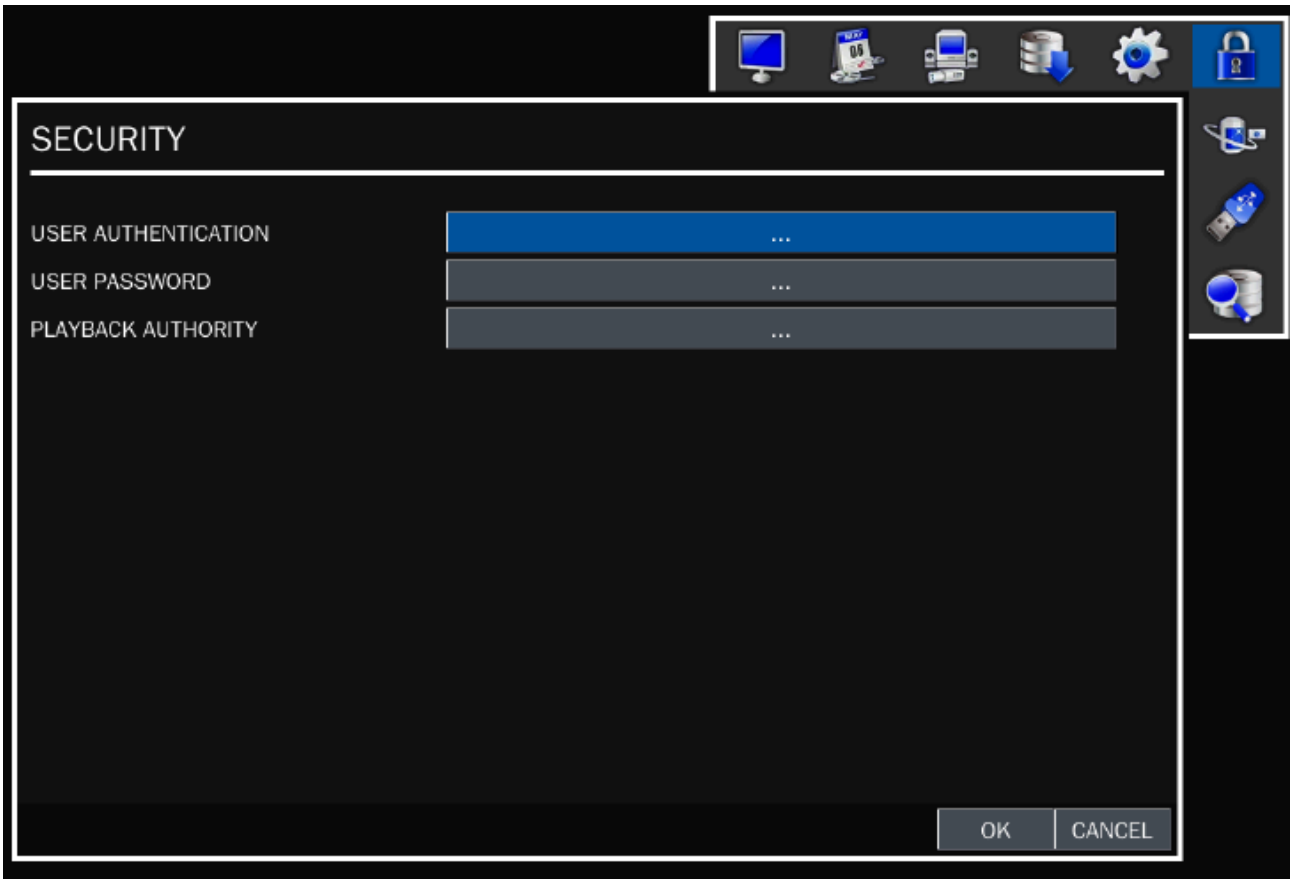


SEND EMAIL – Allows the users to set the following options; TRANSMISSION MODE, IP NOTIFICATION, EVENT ALARM, S.M.A.R.T, MAIL PORT, SECURE OPTION, MAIL TO, MAIL SERVER, ID, PASSWORD, MAIL FROM.

- **TRASMISSION MODE –** IMAGE (Transmits an IMAGE of the triggered ALARM-OUT CHANNEL) or Text
- **IP NOTIFICATION –** OFF, ON (Allows the user to set IP NOFICIATION ON or OFF)
  - **OFF –** Disable IP NOTIFICATION when the DVR IP ADDRESS is changed.
  - **ON –** Enable IP NOTIFICATION when the DVR IP ADDRESS is changed.
- **MAIL BY MOTION –** Enable Email Notification when the camera detects motion.
- **MAIL BY VIDEO LOSS –** Enable Email Notification when the camera signal is lost.
- **S.M.A.R.T –** OFF, ON (Allows the user to set S.M.A.R.T NOTIFICATION ON or OFF)
  - **OFF –** Disable E-MAIL NOTIFICATION when S.M.A.R.T is triggered.
  - **ON –** Enable E-MAIL NOTIFICATION when S.M.A.R.T is triggered.
- **STATUS–** OFF, ON (Allows the user to set MAIL STATUS periodically)
  - DAILY or WEELY or MONTHLY

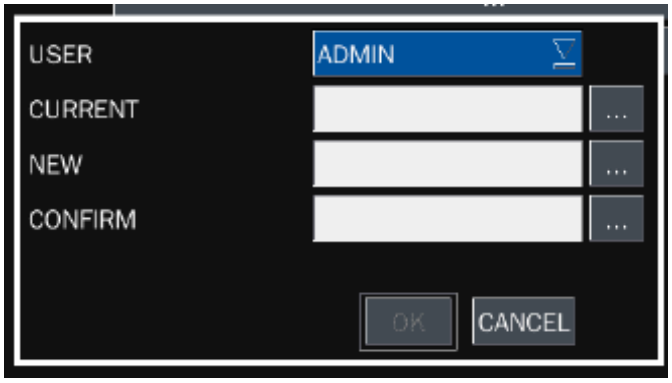
- **SERVER TYPE–** Select Email account from Gmail, Hotmail, AOL, Yahoo, or manual configuration.
- **MAIL PORT –** 1 ~ 99 (Allows the user to set E-MAIL PORT)
- **SECURE OPTION –** NONE, SSL, TLS (Allows the user to select E-MAIL SECURE OPTION)
- **MAIL TO –** Recipient's email address.
- **MAIL SERVER –** Outgoing mail server address.
- **ID –** Outgoing mail address.
- **PASSWORD –** Outgoing mail password.
- **MAIL FROM –** Sender's name.

8-7. SECURITY Setup



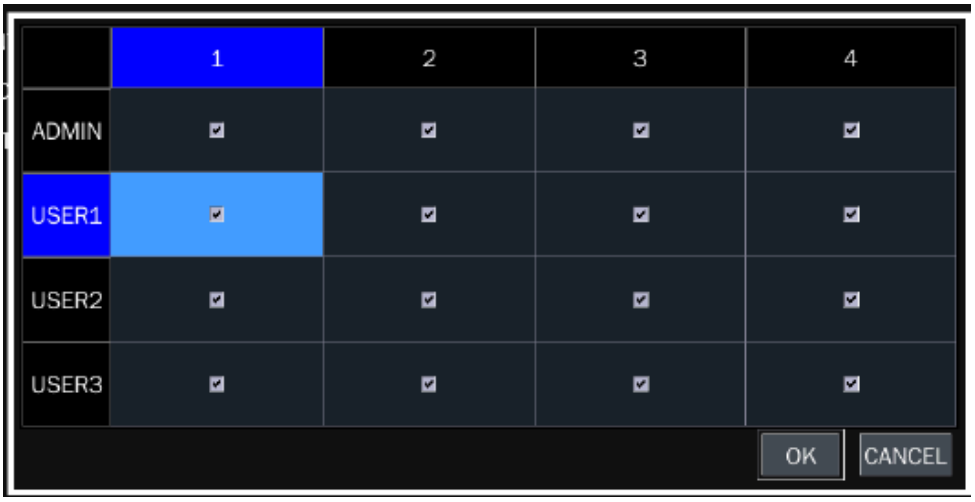
- **USER AUTHENTICATION –** Allows the specific users to access a function.

  - **SETUP –** Allow or Deny specific user to enter SETUP.
  - **PB –** Allow or Deny specific user for PLAYBACK.
  - **PTZ –** Allow or Deny specific user for PTZ Control.
  - **R/OFF –** Allow or Deny specific user to change RECORD settings.
  - **NET –** Allow or Deny specific user for NETWORK access.
- **USER PASSWORD** – Allows the user to change the password.



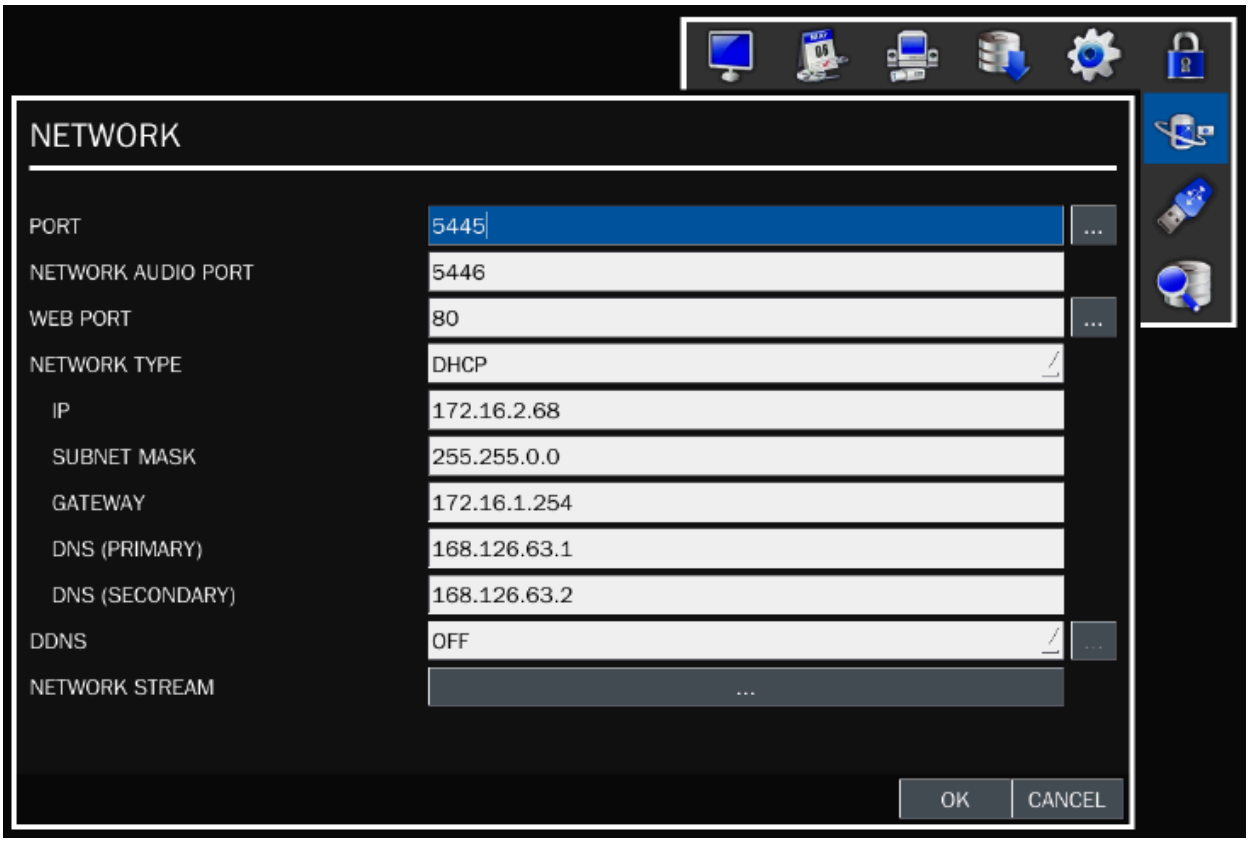
- **USER PASSWORD** – Enter the following information to change the USER PASSWORD; USER, CURRENT, NEW, CONFIRM.

- **PLAYBACK AUTHORITY –** Allows specific users AUTHORITY OF PLAYBACK per CHANNEL.



- **NETWORK LIVE AUTHORITY–** Allows specific users to view selected channels or block the view of selected channels.

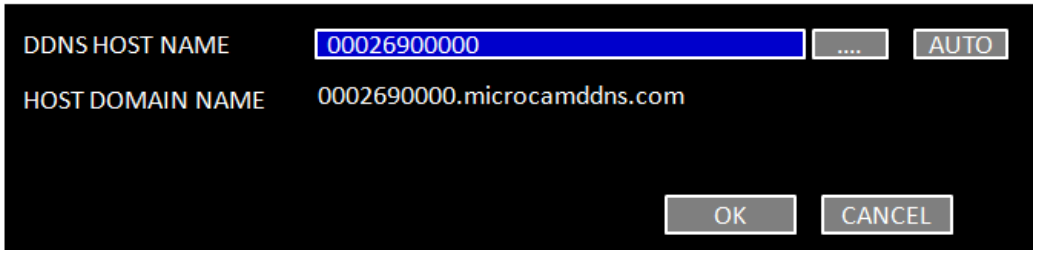
8-8. NETWORK Setup



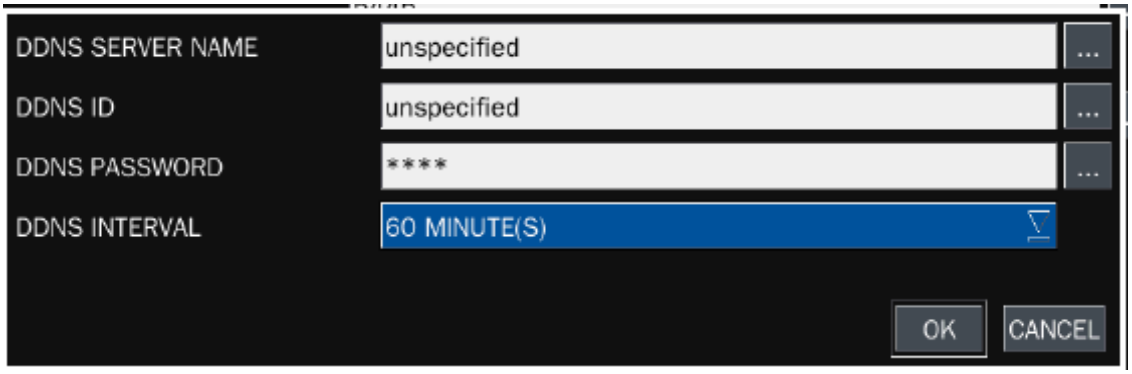
- **PORT –** NETWORK PORT (Allows the user to change the DVR PORT)
- **NETWORK AUDIO PORT -** Set the port for the audio data. Default is 5446 and it has to be the next number of the DVR port.

NOTE: The DEFAULT PORT is used as a primary port to create remote connections.

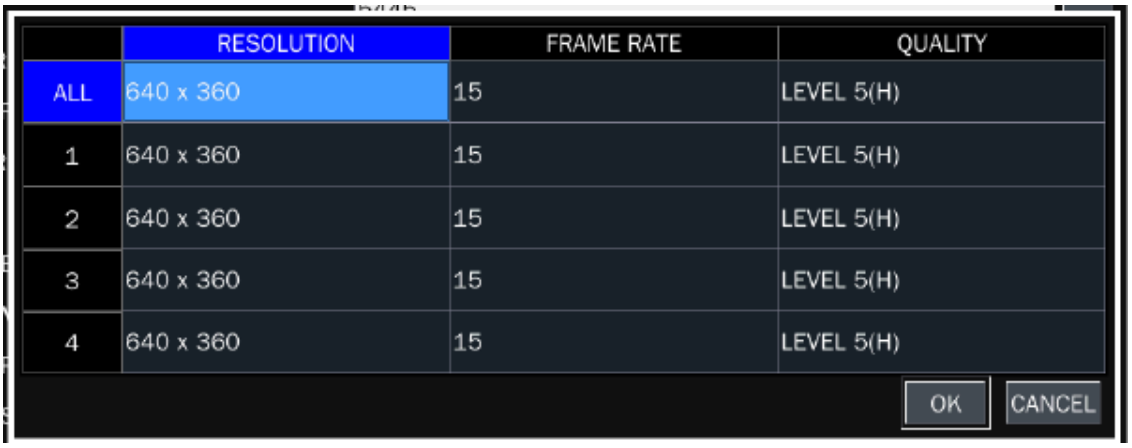
- **WEB PORT –** WEB PORT (Allows the user to change the WEB PORT)
- **NETWORK TYPE –** DHCP, LAN (Allows the user to select between DHCP and LAN NETWORK TYPE)
    - **DHCP –** DHCP will automatically obtain the following settings; IP, SUBNET MASK, GATEWAY, DNS (PRIMARY), DNS (SECONDARY)
    - **LAN –** User must input the following settings; IP, SUBNET MASK, GATEWAY, DNS (PRIMARY), DNS (SECONDARY)
- **DDNS –** OFF, SERVER1, SERVER 2 (Allows the user to turn DDNS OFF or select DDNS server type)
    - **OFF –** Disable DDNS.
    - **SERVER 1 –** Allows the user to use the “microcamddns.com” DDNS Server.



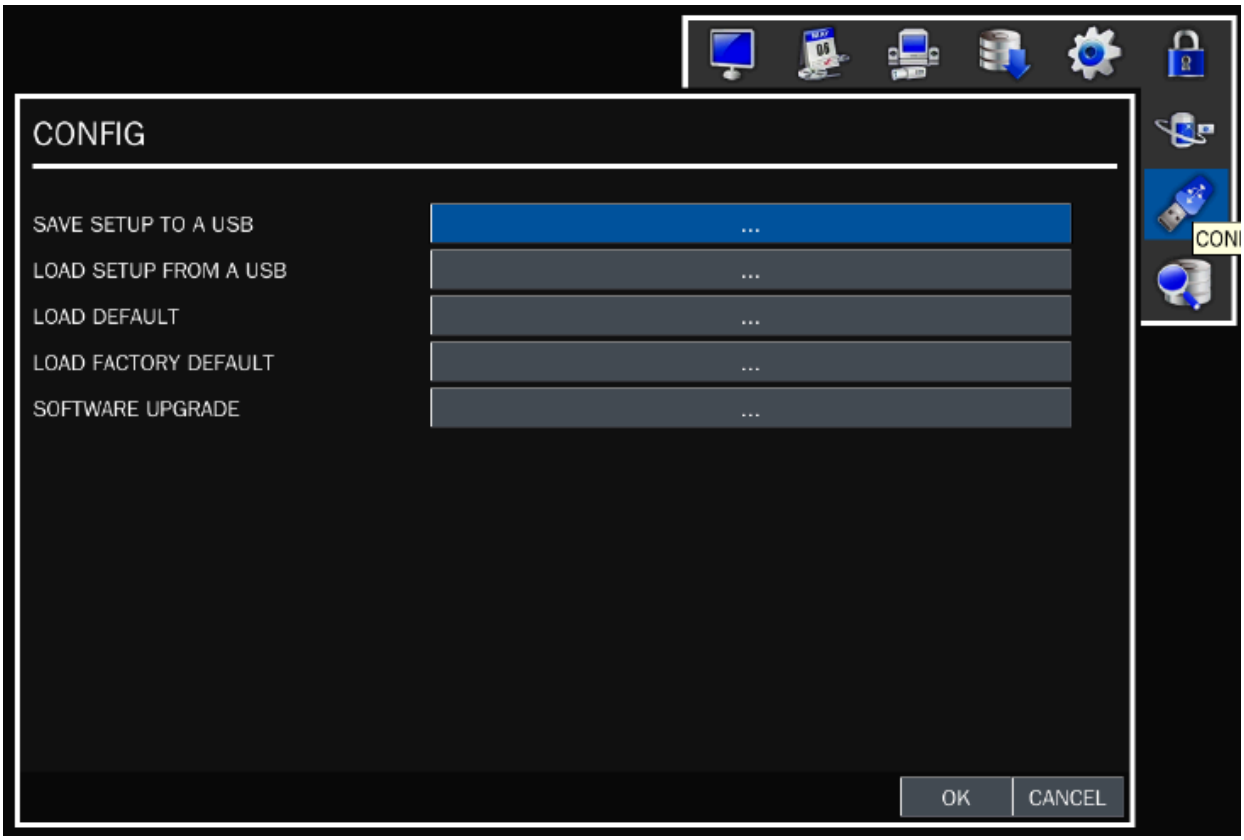
- **SERVER 2 –** Allows the user to user a specific DDNS Server.
  - **DDNS SERVER NAME –** Allows the user to enter the specific DDNS Server NAME.
  - **DDNS ID –** Allows the user to enter specific DDNS ID.
  - **DDNS PASSWORD –** Allows the user to enter specific DDNS PASSWORD.
  - **DDNS INTERVAL –** 5 MINUTES ~ 60 MINUTES (Allows the user to set DDNS INTERVAL)



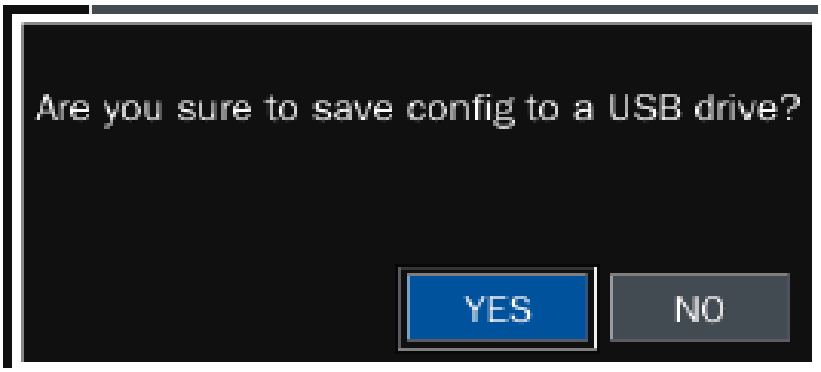
- **NETWORK STREAM –** Allows the user to set the following NETWORK STREAM settings; RESOLUTION, FRAME RATE, QUALITY per CHANNEL.



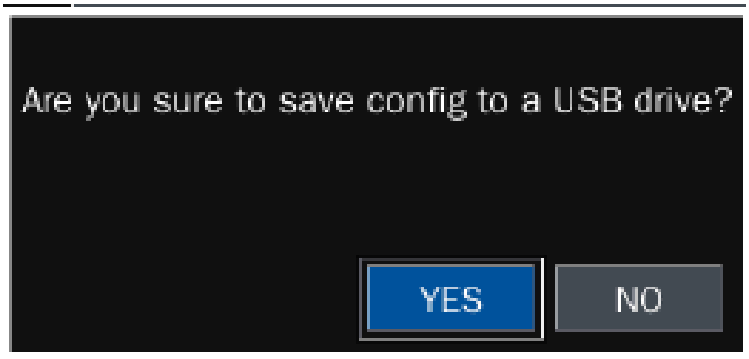
8-9. CONFIG Setup



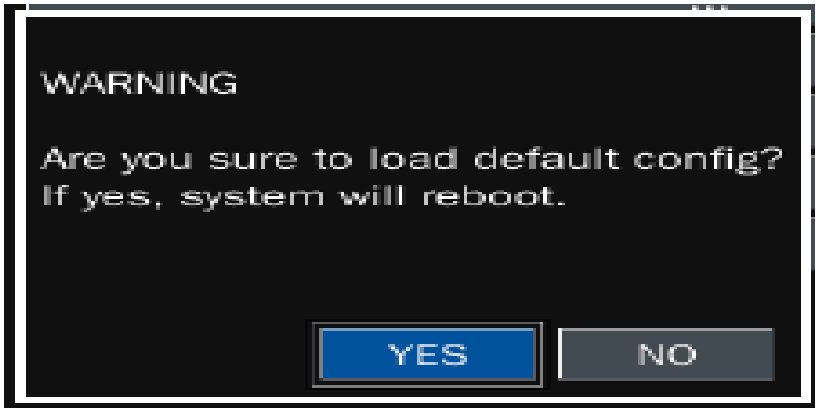
- **SAVE SETUP TO A USB –** Allows the user to SAVE SETUP TO A USB.



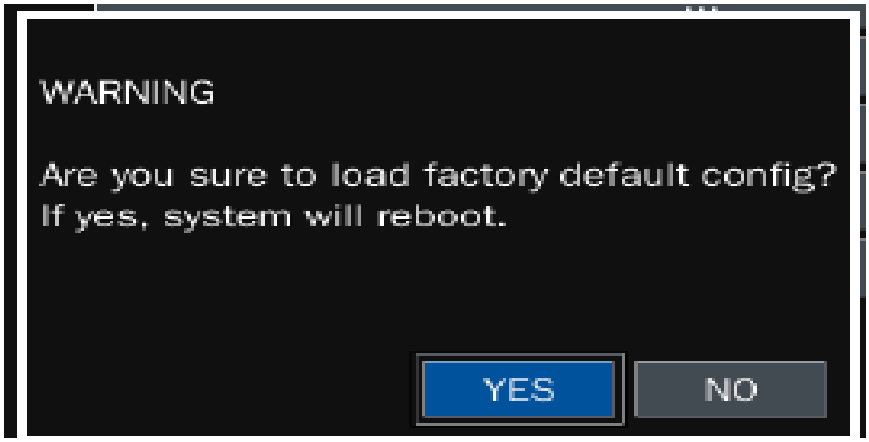
- **LOAD SETUP FROM A USB –** Allows the user to LOAD SETUP FROM A USB.



- **LOAD DEFAULT –** Allows the user to LOAD DEFAULT settings.



- **LOAD FACTORY DEFAULT –** Allows the user to LOAD FACTORY DEFAULT settings.



9. OPERATION

9-1. Live Display Mode

A live image can be selected by pressing the corresponding number key on the DVR front panel or remote control or mouse.

Depending on the model of the DVR, the LIVE DISPLAY MODE will be different.

Double LEFT CLICK the video image to change views.

9-2. Icons

In Live Display Mode, icons on the screen indicate the system mode or status. All icons appear on the bottom of the screen.

NOTE: The control bar will auto-hide over time. Control Bar auto-hide can be turned ON and OFF in the submenu.

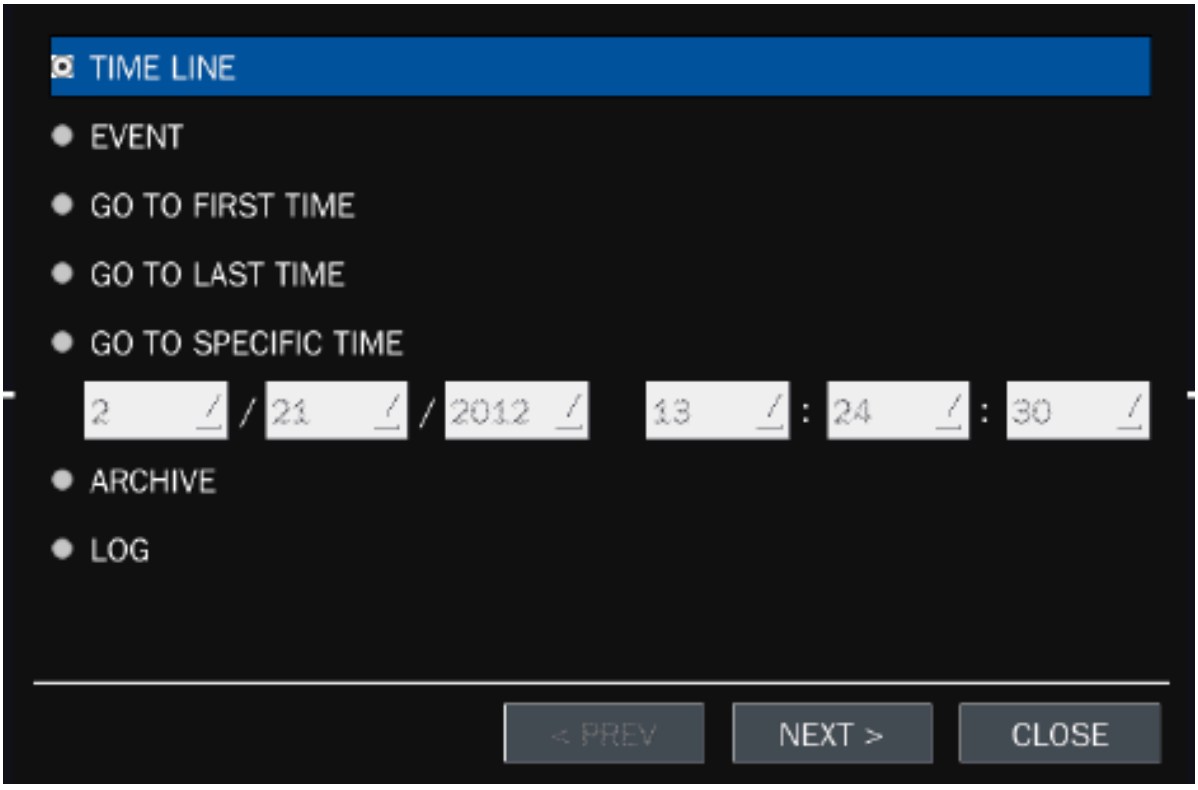
2009/04/14 17:23:40	Displays the current Time and DATE.
R:A	REMOTE CONTROL ID #
15%	Displays the recorded HDD Capacity %
	Indicates the HDD is recycled.
	Indicates CONTINUOUS RECORDING is in progress.
	Indicates MANUAL RECORDING is in progress.
	Indicates MOTION RECORDING is in progress.

	Indicates SENSOR RECORDING is in progress.
	Indicates DVR is LOCKED or UNLOCKED.
	Indicates AUDIO is RECORDING OR MUTED.
	Indicates ALARM-OUT is set.
	Indicates the ALARM-OUT is activated.
	Indicates the EVENT has been trigged.
	Indicates that a network client is connected to the DVR.
	Indicates SEQUENCE is ON OR OFF.

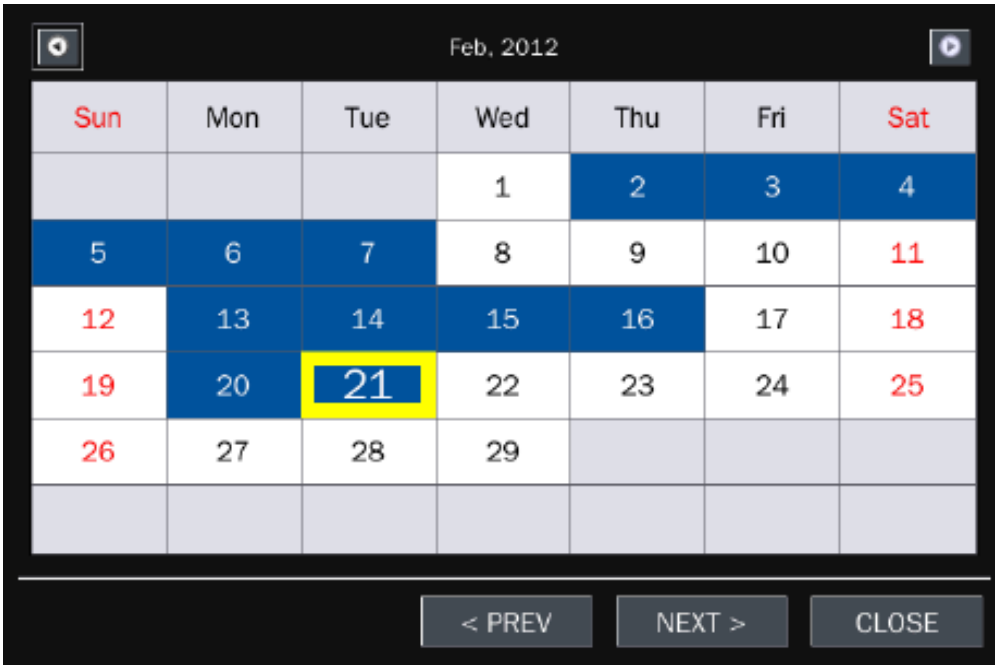
NOTE: MANUAL RECORDING will overwrite any recording settings and will RECORD CONTINOUSLY.

NOTE: If no REMOTE CONTROL ID is set, R:A will be displayed (REMOTE:ALL)

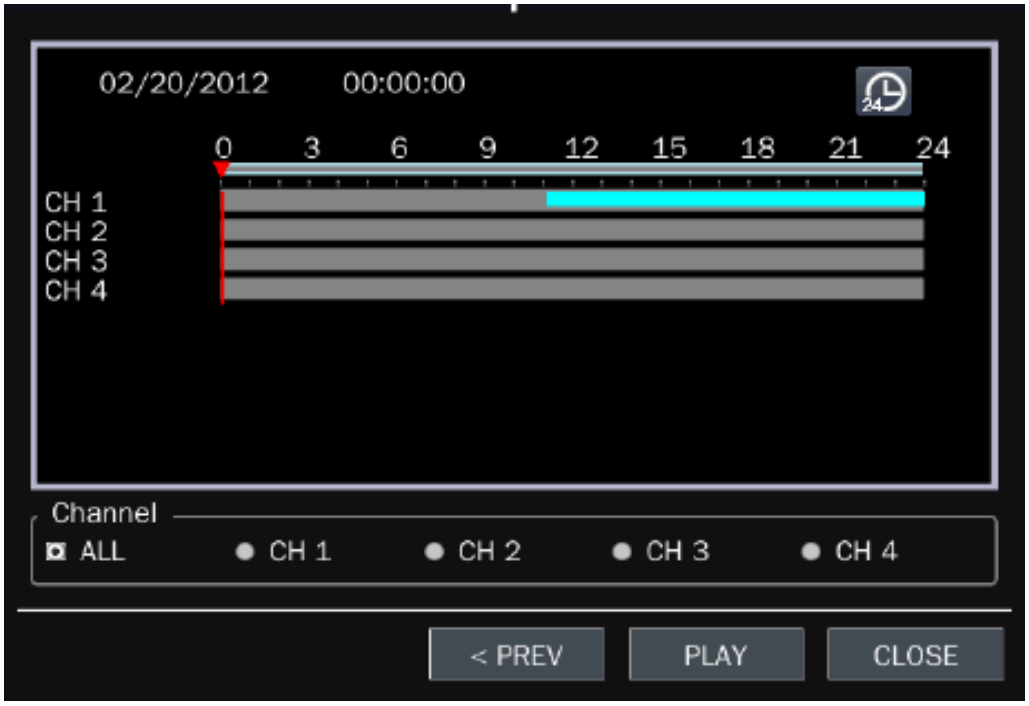
9-3. Search



- **TIMELINE –** Allows the user to playback using the TIMELINE BAR.

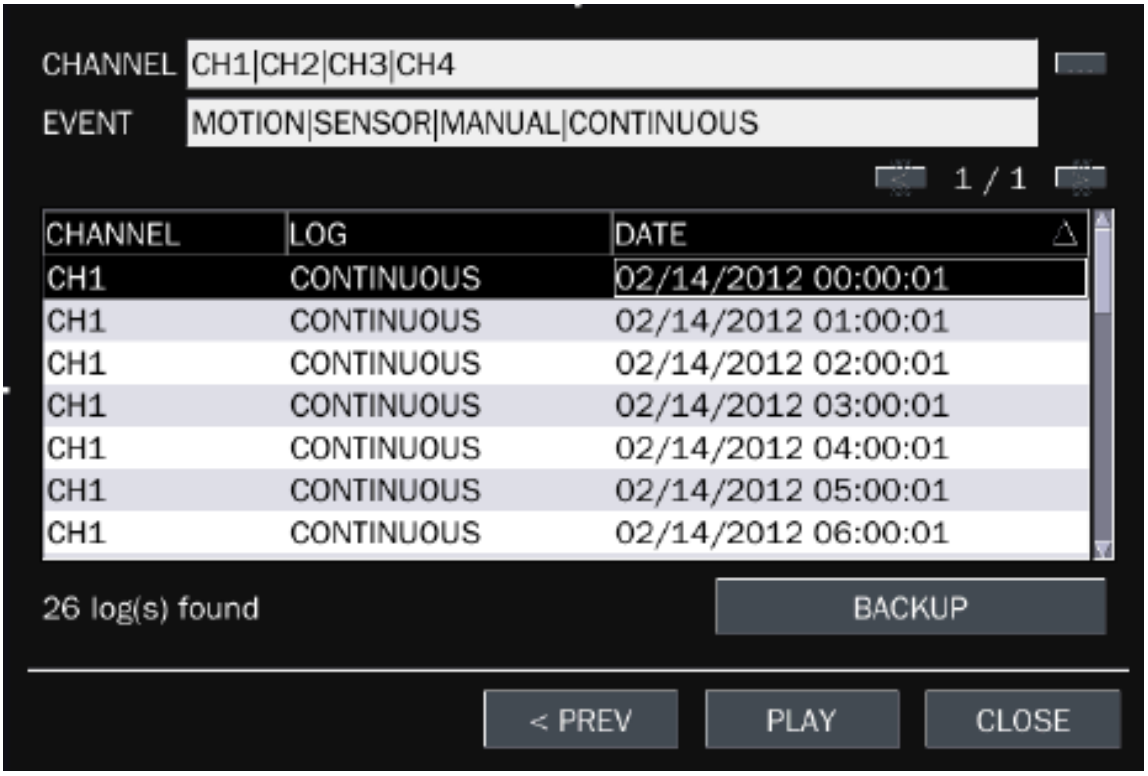


NOTE: DATES with RECORDED DATA are displayed in blue.



TIMELINE BAR – Allows the user to find the specific hour and minutes for PLAYBACK. To change the TIMELINE BAR from HOURS to MINUTES, LEFT CLICK the icon on the upper right hand corner.

- **EVENT –** Allows the user to PLAYBACK from a triggered EVENT.

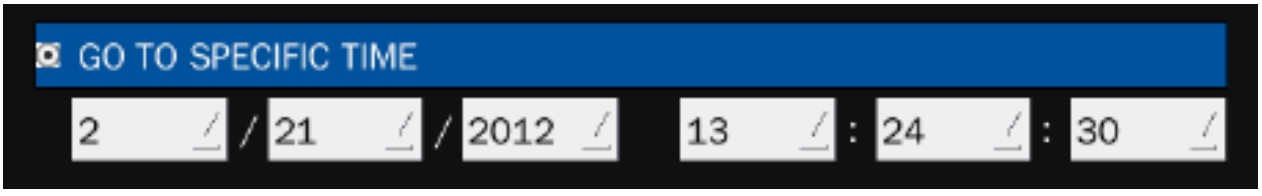


Select the CHANNEL and TYPE of EVENT triggered to open the EVENT LOG.

- **M –** MOTION
- **S –** SENSOR
- **R –** MANUAL RECORDING
- **C –** CONTINOUS

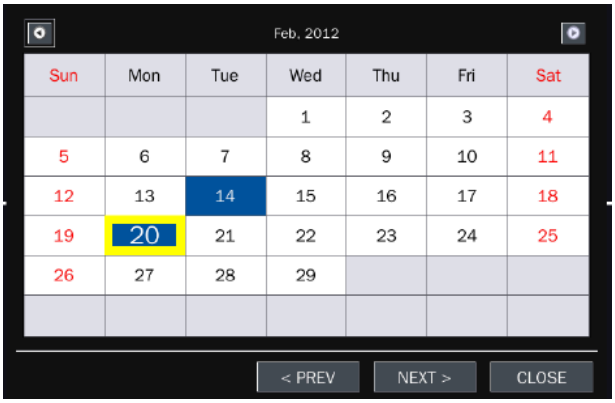
Left Click on an EVENT list to PLAYBACK the triggered EVENT.

- **GO TO FIRST TIME –** Allows user to PLAYBACK the FIRST RECORDED DATA.
- **GO TO LAST TIME –** Allows user to PLAYBACK the LAST RECORDED DATA.
- **GO TO SPECIFIC TIME –** Allows user to PLAYBACK from a SPECIFIC TIME.



GO TO SPECIFIC TIME – Select the YEAR/MONTH/DAY and HOUR/MINUTE(s)/SECOND(s) and Left Click OK to PLAYBACK from the SPECIFIC TIME.

- **ARCHIVE –** Allows the user to View ARCHIVED BACKUPS.

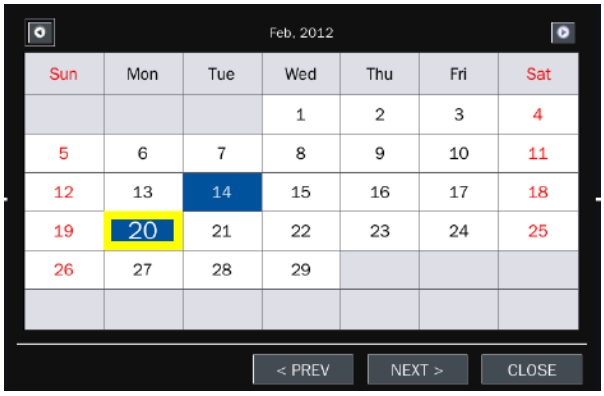


ARCHIVE – Left Click a DATE to display the ARCHIVE LOG.

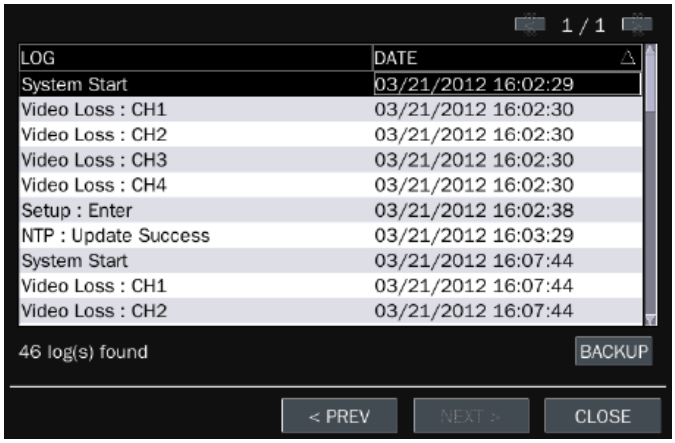
From the ARCHIVE LOG, SELECT the ARCHIVE BACKUP EVENT to open the BACKUP WINDOW.

In the BACKUP WINDOW, Select the BACKUP DEVICE (USB STICK, DVD-RW) and Left Click BACKUP to start the BACKUP PROCESS.

- **LOG –** Allows the user to view the EVENT LOG.

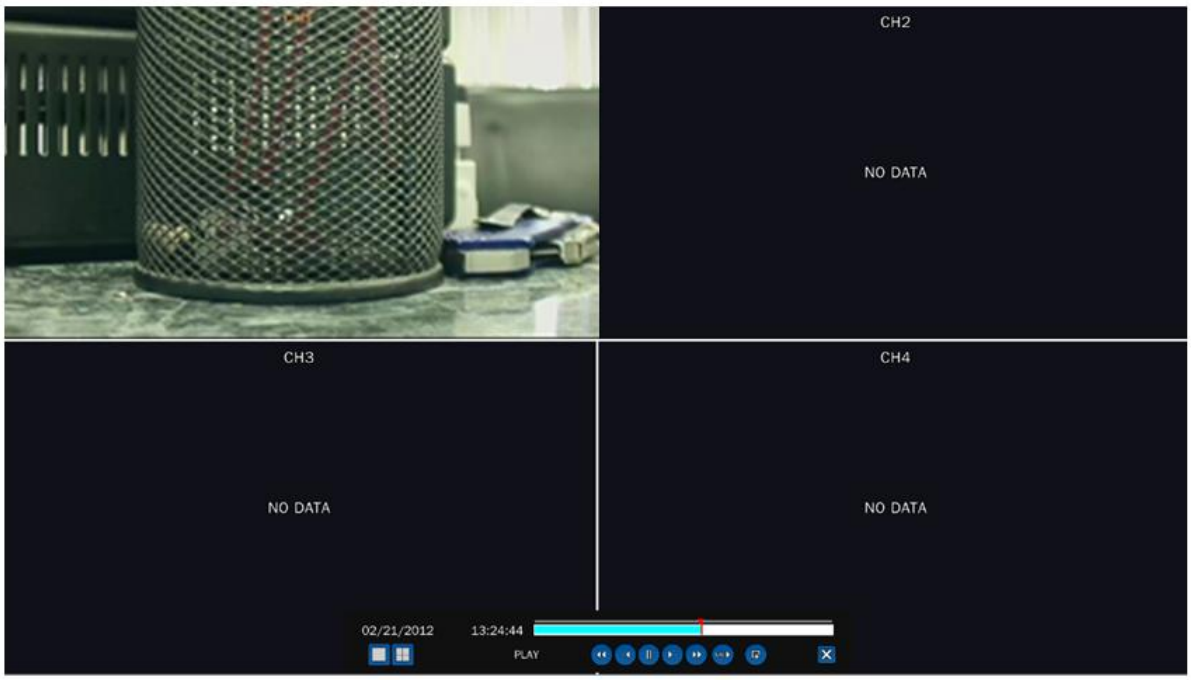


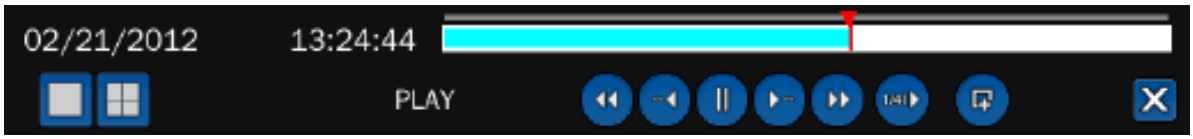
LOG – Left Click a DATE to open the LOG LIST window.



The LOG LIST will display LOG(s) RECORDED from any triggered EVENTS.

9-4. Playback





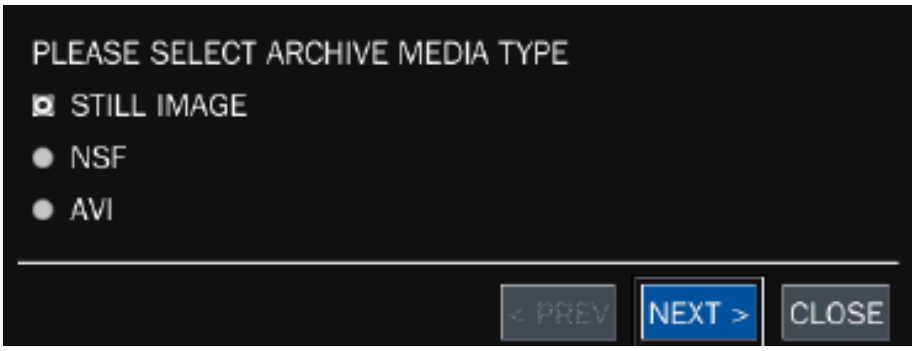
- **1 CH SPLIT –** Allows the user to switch to 1 CH Full screen.
- **4 CH SPLIT –** Allows the user to switch to 4 CH SPLIT.
- **8 CH SPLIT –** Allows the user to switch to 8 CH SPLIT.
- **16 CH SPLIT –** Allows the user to switch to 16 CH SPLIT.

◀◀	**REW –** x1, x2, x4, x8, x16, x32 (Allows user to REWIND during PLAYBACK)
--◀	**F/REW –** 1 MINUTE, 1 SECOND (Allows user to REWIND 1 MINUTE during PLAYBACK and 1 SECOND when PAUSED)
▶/ II	**PLAY/PAUSE –** Allows user to PLAY or PAUSE during PLAYBACK.
▶--	**F/ADV –** 1 MINUTE, 1 SECOND (Allows user to FAST FORWARD 1 MINUTE during PLAYBACK and 1 SECOND when PAUSED)
▶▶	**FF** – x1, x2, x4, x8, x16, x32 (Allows user to FAST FORWARD during PLAYBACK)
▶--	**SLOW –** ¼, ½ (Allows user to PLAYBACK ¼ or ½ SPEEDS)
	BACKUP – STILL IMAGE, NSF, AVI (Allows user to BACKUP a STILL IMAGE or VIDEO BACKUP)

9-5.Backup

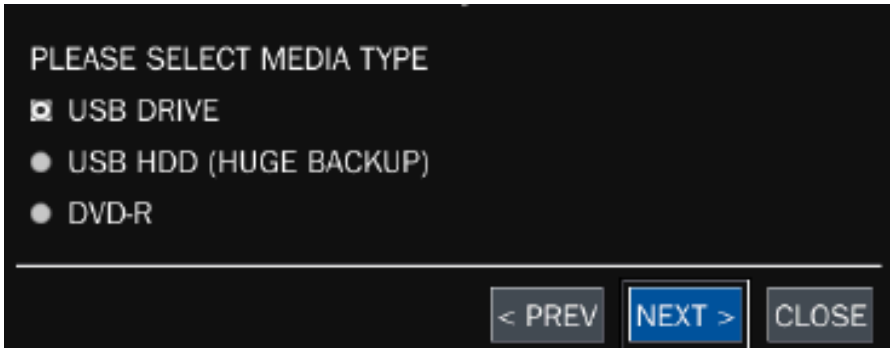
LEFT CLICK the BACKUP icon to open the BACKUP Window during PLAYBACK.

1. **ARCHIVE –** Still Image, ASF, AVI (Allows user to select BACKUP type)



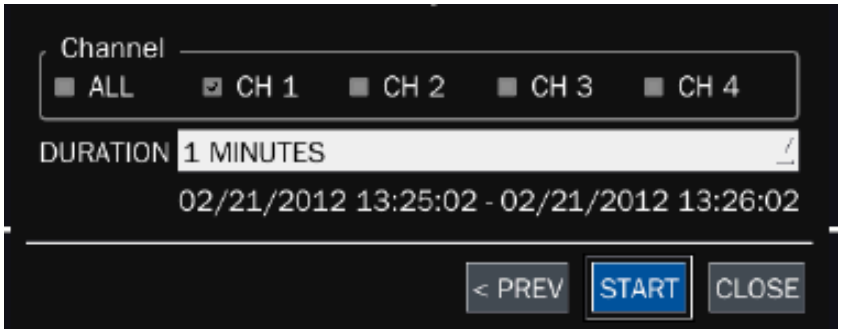
   - **STILL IMAGE –** BACKUP STILL IMAGE.
   - **NSF –** BACKUP in NSF FORMAT.
   - **AVI –** BACKUP in AVI FORMAT.

2. **SELECT MEDIA TYPE** – USB STICK, USE DVD-RW, USE HDD (HUGE BACKUP)



   - **USB DRIVE –** BACKUP to a USB STICK.
   - **USE HDD (HUGE BACKUP) –** BACKUP to an EXTERNAL HDD.
   - **USE DVD-R –** BACKUP to a DVD-R.

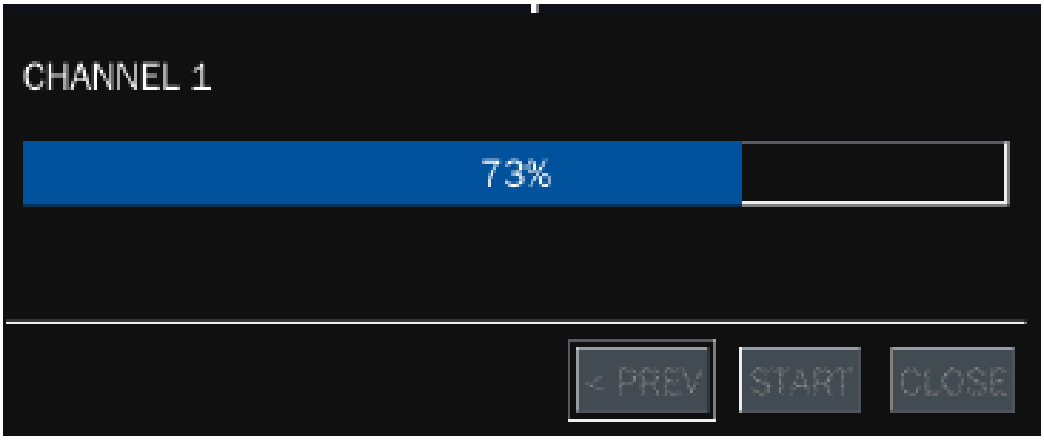
3. SELECT the appropriate MEDIA TYPE and Left Click YES to open the CHANNEL BACKUP Window.



4. In the CHANNEL BACKUP Window, select the appropriate CHANNELS and SET the DURATION and Left Click YES to start the BACKUP process.

NOTE: USB STICK and DVD-R MEDIA TYPE will only be available to BACKUP in MINUTES. USE HDD BACKUP will only be available to BACKUP in HOURS.

- **CHANNEL –** Allows the user to select SPECIFIC CHANNELS for BACKUP.
- **DURATION –** Allows the user to set the DURATION of BACKUP.



9-6.Backup data playback

9-6-1. AVI Format – Media Player

AVI format: AVI format video can be played back by Window Media Player™ or other media player that is compatible with AVI format video.

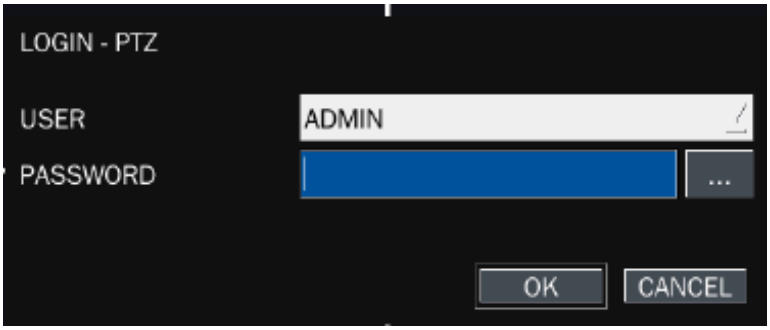
1. Please install the "UMSDecoderFilter" that the DVR copies "DvrPlayer" folder on USB flash drive with the video.

2. Otherwise, the video and time stamp over video can't be properly playback and displayed on Window Media Player™.

9-6-2. NSF Format - HD Player

NSF format: NSF format video can be played back using the HDplayer that the DVR copies to "DvrPlayer" folder on USB flash drive with video. Use the mouse scroll to use digital zoom in and out feature.

9-7.PTZ Control



- **INITIALIZE –** Initialize the PTZ setting on the selected CHANNEL.
- **PAN / TILT –** PAN / TILT the selected CHANNEL PTZ.
- **ZOOM / FOCUS –** ZOOM / FOCUS the selected CHANNEL PTZ.
- **OSD –** Select OSD to enter the PTZ menu.
- **AUTOSCAN –** Allows the user to ENABLE / DISABLE AUTOSCAN.
- **PRESET –** Allows the user to select PTZ PRESET.
- **TOUR –** Allows the user to select PTZ TOUR.
- **NUMBER –** Allows the user to select PTZ TOUR or PTZ PRESET NUMBER.

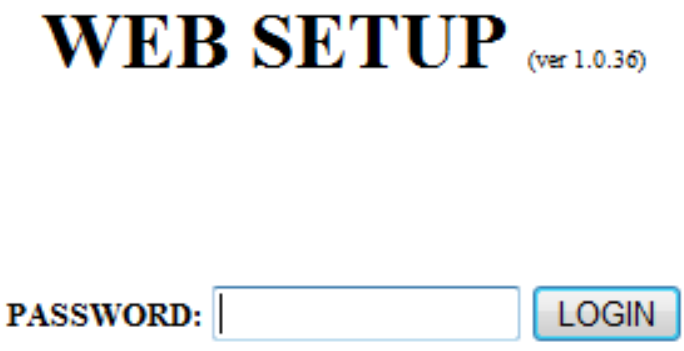
10. Remote Setup

- Remote Setup Access from CMS: Select REMOTE SETUP button.

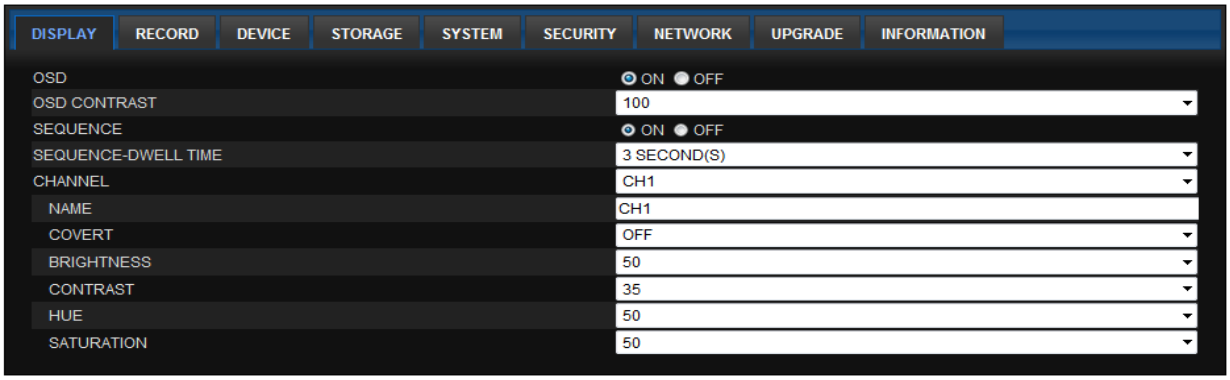
- Remote Setup Access from WEB VIEWER: Select SETUP button.

- Remote Setup Access from Single Client VIEWER: RIGHT-Click over live display and select REMOTE SETUP button.

Then the setup window is displayed. The specified menu screen is displayed on the upper left of the screen. Setting is the same as with the DVR menu setting. Refer to the corresponding pages for details on the setting items. Enter the password of the DVR when prompted. (NOTE: The default password is 1111)

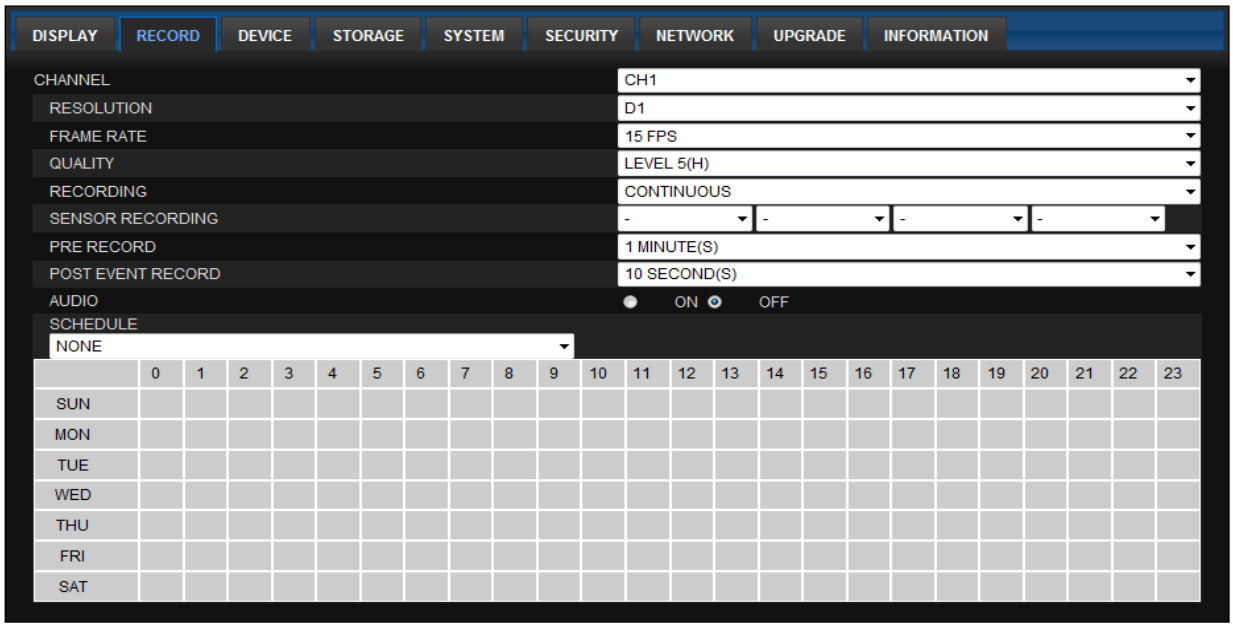


10-1. DISPLAY



- **OSD –** ON/OFF (Turn ON/OFF the On Screen Displays)
- **OSD CONSTRAST –** 50 ~ 100 (Set the transparency of the setup window)
- **SEQUENCE –** ON/OFF (Turn ON/OFF the Sequence)
- **SEQUENCE-DWELL TIME –** 3 ~ 60 SECONDS (Set the SEQUENCE-DWELL TIME)
- **CHANNEL –** CH 1 ~ CH 16 (Select the channel to make adjustments)
    - **NAME –** Allows the user to change the default CHANNEL NAME.
    - **COVERT –** ON/OFF (Allows the user to turn ON/OFF COVERT for the highlighted CHANNEL)

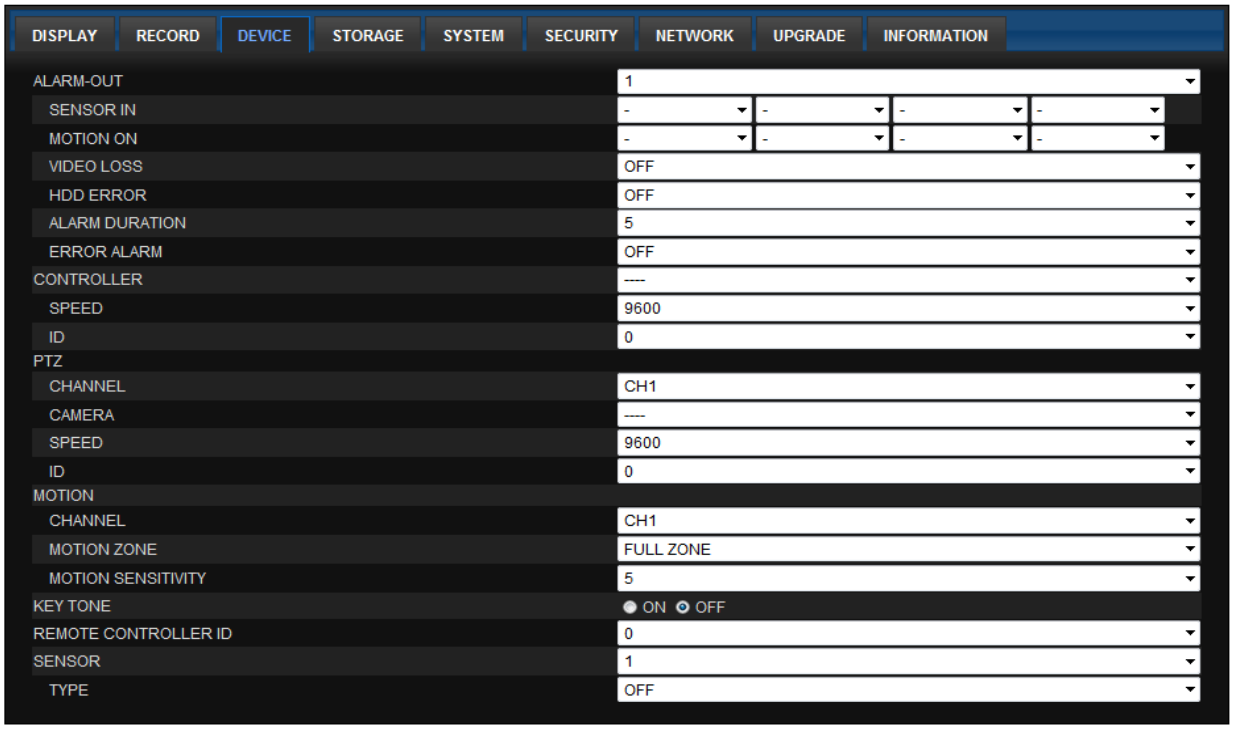
10-2. RECORD



- **CHANNEL –** CH 1 ~ CH 16 (Allows the user to select CHANNEL to make adjustments)
    - **RESOLUTION –** 640 x 360, 1280 x 720, 1920 x 1080 (Allows the user to change the recording RESOLUTION of the selected CHANNEL)
    - **FRAME RATE – #** ~ # (Allows the user to change the recording FRAME RATE of the selected CHANNEL)

- **QUALITY –** LEVEL 1 ~ LEVEL 5 (Allows the user to change the recording QUALITY of the selected CHANNEL)
- **RECORDING –** CONTINUOUS, MOTION, SENSOR, SCHEDULE, DISABLE (Allows the user to change the RECORDING type of the selected CHANNEL)
- **SENSOR RECORDING –** Allows the user to set up to 4 sensors for selected CHANNEL.
- **PRE RECORD –** OFF, 15 SECONDS, 30 SECONDS, 1 MINUTE, 3 MINUTES, 20 MINUTES (Allows the user to set PRE RECORDING for selected CHANNEL)
- **POST EVENT RECORD –** 10 SECONDS ~ 30 SECONDS, 60 SECONDS (Allows the user to set POST EVEN RECORDING for selected CHANNEL)
- **AUDIO –** ON/OFF (Allows the user to turn ON/OFF AUDIO recording for selected channel)

10-3. DEVICE



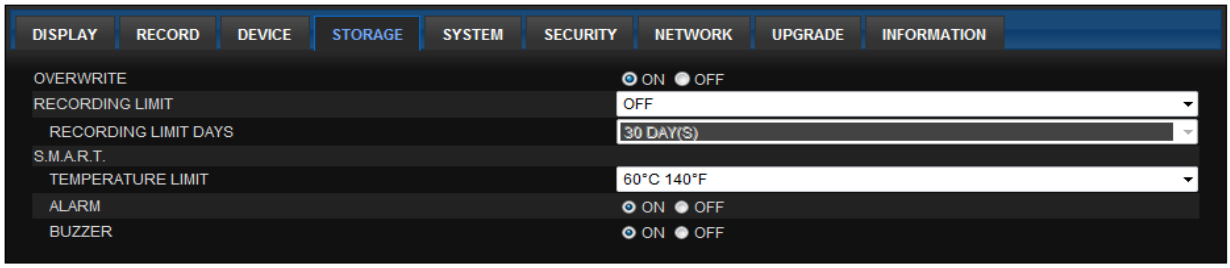
- **ALARM-OUT –** 1 ~ 4 (Allows the user to select a specific alarm output terminal)
  - **SENSOR IN –** Allows the user to set ALARM-OUT when SENSOR-IN is triggered.
  - **MOTION ON –** Allows the user to set ALARM-OUT when MOTION is triggered.
  - **VIDEO LOSS ON –** Allows the user to set ALARM-OUT when VIDEO LOSS is detected.
  - **ALARM DURATION –** 1 SECOND ~ 60 SECONDS (Allows the user to set ALARM-OUT DURATION)
  - **ERROR ALARM –** OFF, ALL, HDD ERROR, VIDEO LOSS (Allows the user to set ERROR ALARM for SPECIFIC ERROR)
- **CONTROLLER –** Allows the user to select CONTROLLER protocol

- **SPEED** – Allows the user to select CONTROLLER SPEED
- **ID** – Allows the user to select CONTROLLER SPEED

- **CAMERA PTZ** – Allows the user to select PTZ CAMERA CHANNEL
  - **NAME** – Allows the user to select PTZ protocol
  - **SPEED** – Allows the user to set PTZ SPEED
  - **ID** – Allows the user to select PTZ ID

- **MOTION**
  - **CHANNEL –** CH 1 ~ 16 (Allows the user to select CHANNEL for MOTION setting)
  - **MOTION ZONE –** FULL ZONE, PARTIAL ZONE (Allows the user to select MOTION ZONE)
  - **MOTION SENSITIVITY –** 1 ~ 9 (Allows the user to set MOTION SENSITIVITY)
- **KEY TONE –** OFF, ON (Allows the user to turn KEY TONE OFF or ON)
- **REMOTE CONTROLLER ID –** 00 ~ 99 (Allows the user to set REMOTE CONTROL ID)
- **SENSOR –** 1 ~ 4 (Allows the user to select SENSOR Number)
  - **TYPE –** OFF, NORMAL OPEN, NORMAL CLOSE (Allows the user to set SENSOR TYPE)

10-4. STORAGE

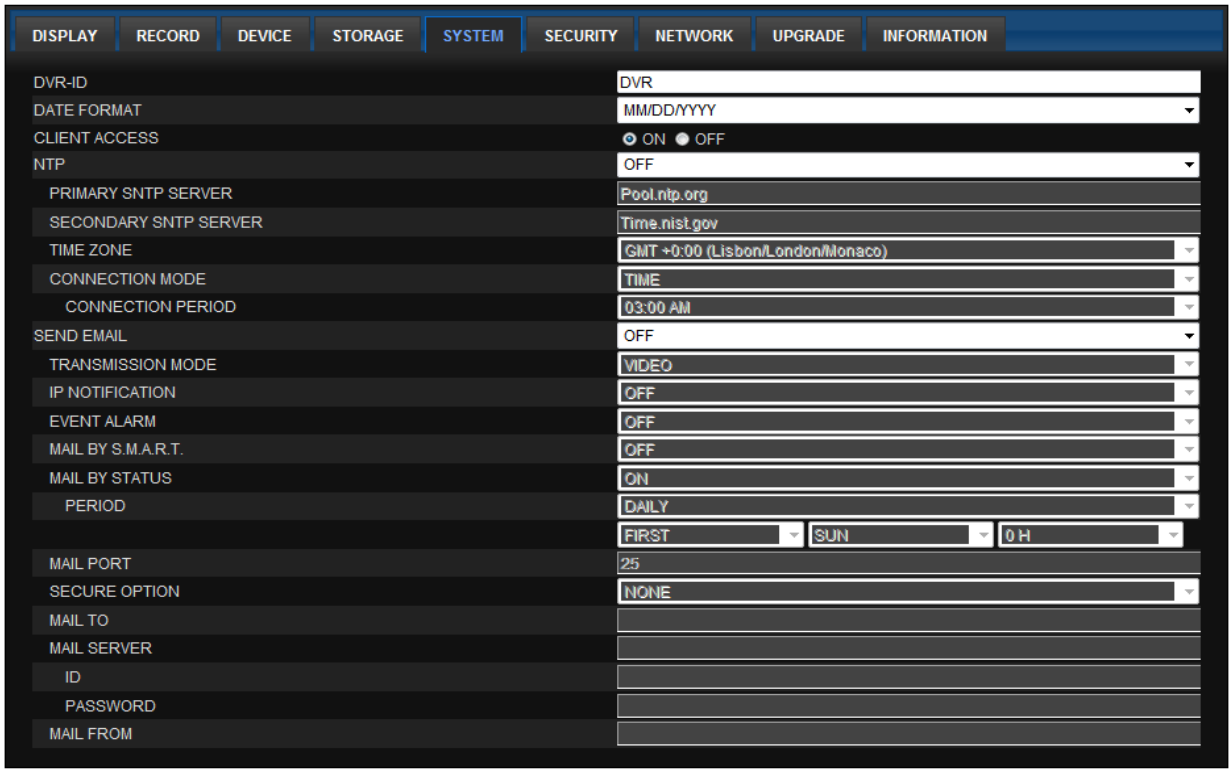


- **OVERWRITE –** ON, OFF (Allows the user to set OVERWRITE of the HDD ON or OFF)
- **NOTE: Enabling OVERWRITE will allow the DVR to write over previously recorded data, starting with the oldest date, when the HDD is FULL. If OVERWRITE is OFF, the DVR will not record any new data once the HDD becomes full.**
- **RECORDING LIMIT –** OFF, ON (Allows the user to set the RECORDING LIMIT)
  - **RECORDING LIMIT DAYS –** 1 DAY ~ 90 DAYS (Allows the user to set RECORDING LIMIT DAYS)
- **S.M.A.R.T –** Allows the user to set S.M.A.R.T feature.
  - **TEMPERATURE LIMIT –** 20 ~ 55 (Allows the user to set the HDD TEMPERATURE LIMIT to trigger ALARM and BUZZER)

NOTE: The recommended operating temperature for HDD is between 40C to 50C (104F to 122F)

  - **ALARM –** ON, OFF (Allows the user to set ALARM ON or OFF)
  - **BUZZER –** ON, OFF (Allows the user to set BUZZER ON or OFF)

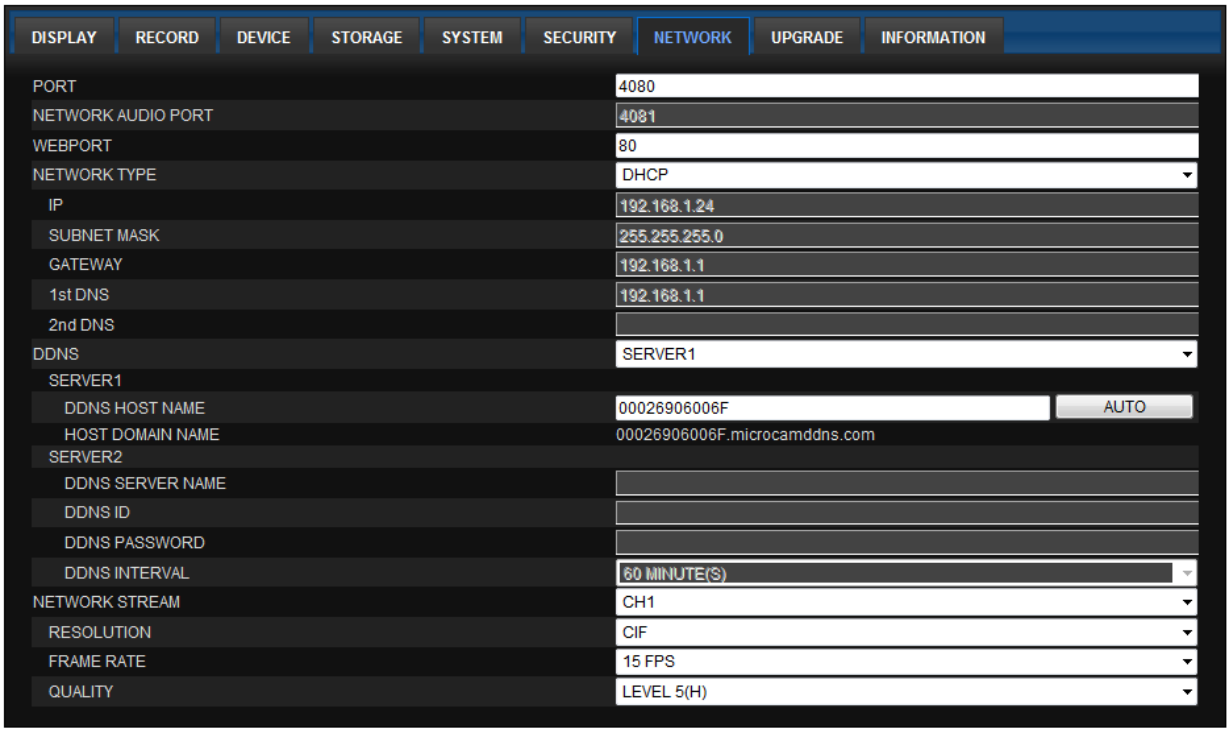
10-5. SYSTEM



- **DVR-ID –** Allows the user to change the DVR ID
- **DATE FORMAT –** Allows the user to change the DATE FORMAT display from the following; YYYY/MM/DD, MM/DD/YYYY, DD/MM/YYYY, YYYY-MM-DD, MM-DD-YYYY, DD-MM-YYYY.
- **NTP –** OFF, ON (Allows the user to set NTP OFF or ON)
    - **PRIMARY SNTP SERVER –** PRIMARY SNTP (Simple Network Time Protocol) SERVER
    - **SECONDARY SNTP SERVER –** SECONDARY SNTP (Simple Network Time Protocol) SERVER
    - **TIME ZONE –** Allows the user to set the TIME ZONE
    - **CONNECTION MODE –** INTERVAL, TIME, ONCE (Allows user to select the SNTP CONNECTION MODE)
        - **CONNECTION PERIOD –** Allows the user to set the SNTP Synchronize CONNECTION PERIOD when setting the CONNECTION MODE to INTERVAL or TIME
- **SEND EMAIL –** OFF, ON (Allows the user to set SEND EMAIL OFF or ON)
    - **TRANSMISSION MODE –** IMAGE (Transmits an IMAGE of the triggered ALARM-OUT CHANNEL)
    - **IP NOTIFICATION –** OFF, ON (Allows the user to set IP NOFICIATION ON or OFF)
    - **EVENT ALARM –** OFF, ON (Allows the user to set EVENT ALARM ON or OFF)
    - **MAIL BY S.M.A.R.T –** OFF, ON (Allows the user to set S.M.A.R.T NOTIFICATION ON or OFF)

- **MAIL PORT –** 1 ~ 99 (Allows the user to set E-MAIL PORT)
- **SECURE OPTION –** NONE, SSL, TLS (Allows the user to select E-MAIL SECURE OPTION)
- **MAIL TO –** Recipient's email address.
- **MAIL SERVER –** Outgoing mail server address.
- **ID –** Outgoing mail address.
- **PASSWORD –** Outgoing mail password.
- **MAIL FROM –** Sender's name.

10-6. NETWORK



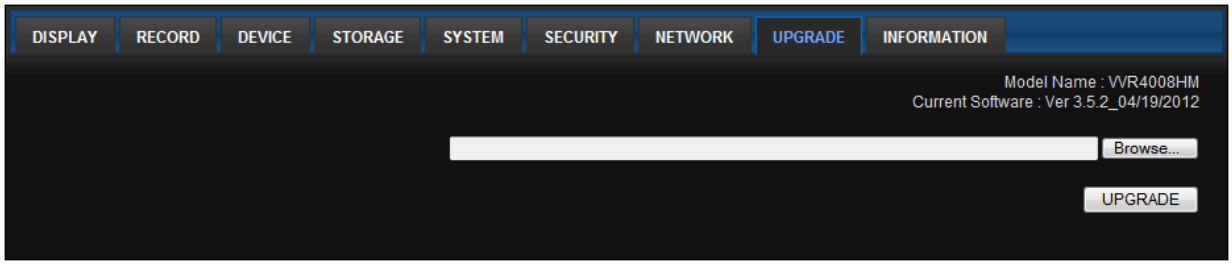
- **PORT –** NETWORK PORT (Allows the user to change the DVR PORT)
- **NOTE: The DEFAULT PORT is used as a primary port to create remote connections.**
- **WEBPORT –** WEB PORT (Allows the user to change the WEB PORT)
- **NETWORK TYPE –** DHCP, LAN (Allows the user to select between DHCP and LAN NETWORK TYPE)
  - **IP –** Enter IP address if NETWORK TYPE is set to LAN.
  - **SUBNET MASK –** Enter SUBNET MASK address if NETWORK TYPE is set to LAN.
  - **GATEWAY –** Enter GATEWAY address if NETWORK TYPE is set to LAN.
  - **1ST DNS –** Enter Primary DNS server address if NETWORK TYPE is set to LAN.
  - **2ND DNS –** Enter Secondary DNS server address if NETWORK TYPE is set to LAN.
- **DDNS –** OFF, ON (Allows the user to turn DDNS OFF OR ON)
  - **DDNS SERVER 1 NAME –** Allows user to use the "microcamdns.com".

- **DDNS SERVER 2 NAME –** Allows the user to user a specific DDNS SERVER.
- **DDNS SERVER 2 ID –** Allows the user to enter specific DDNS ID.
- **DDNS SERVER 2 PASSWORD –** Allows the user to enter specific DDNS PASSWORD.
- **DDNS SERVER 2 INTERVAL –** 5 MINUTES ~ 60 MINUTES (Allows the user to set DDNS INTERVAL)

- **NETWORK STREAM –** Allows the user to set the following NETWORK STREAM settings; RESOLUTION, FRAME RATE, QUALITY per CHANNEL.
  - **RESOLUTION –** Allows the user to set for NETWORK STREAMING RESOLUTION
  - **FRAME RATE –** Allows the user to set the FRAME RATE
  - **QUALITY –** Allows the user to set the image QUALITY from 1 ~ 5 for NETWORK QUALITY

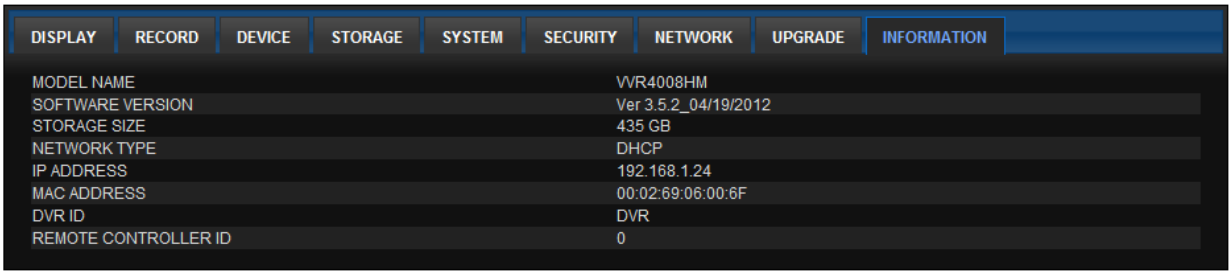
NOTE: NETWORK STREAM settings do not affect the DVR's recording settings.

10-7. REMOTE UPGRADE



- **BROWSE –** Browse within the PC to look up a firmware upgrade file.
- **UPGRADE –** Allows the user to upgrade firmware with selected file.

10-8. INFORMATION



Shows the system information.

11. DDNS Registration

DDNS (Dynamic Domain Name System) allows a domain name to be constantly synchronized with a dynamic IP address. It allows using a dynamic IP address to be associated with a static domain name.

Once the setting is completed, the DDNS address will be:

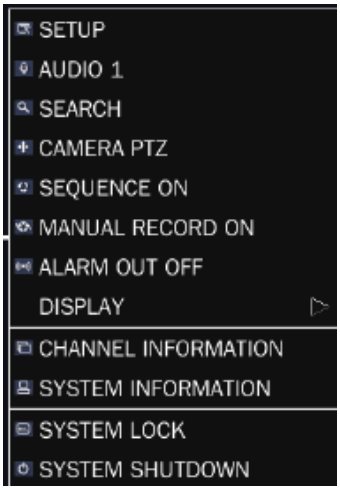
http://**hostname**.microcamddns.com

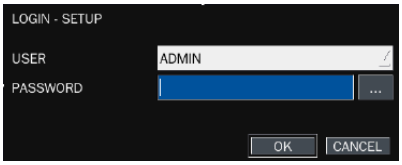
For example, if you enter the host name as “vvr4004xxxx”, then the address will be:

http://vvr4004xxxx.microcamddns.com

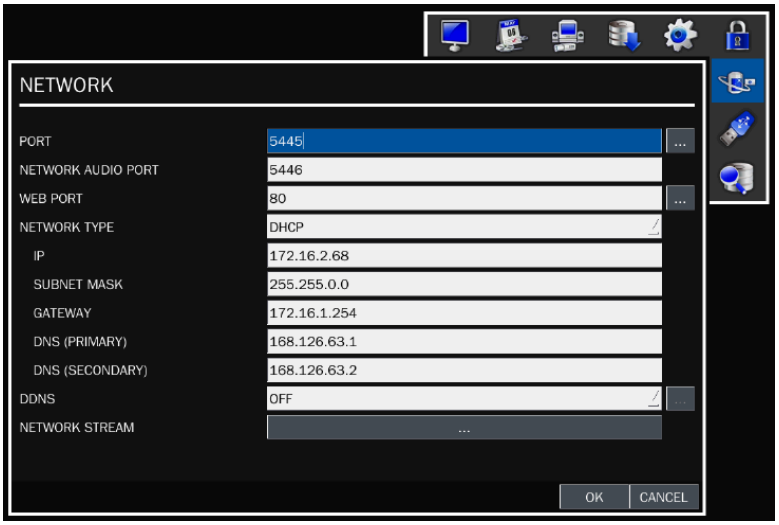
1. Right-click a mouse over the live screen to open Sub Menu.

2. Select SETUP and enter Password (Default password: 1111) to login Setup menu.

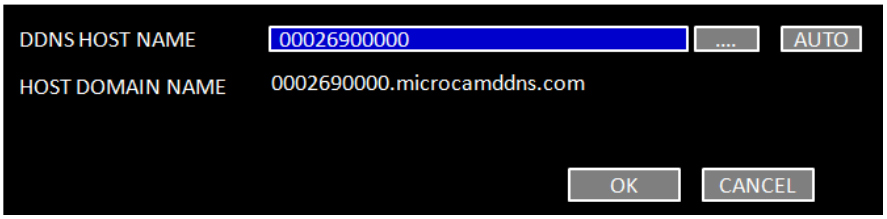




3. Go to NETWORK Setup.



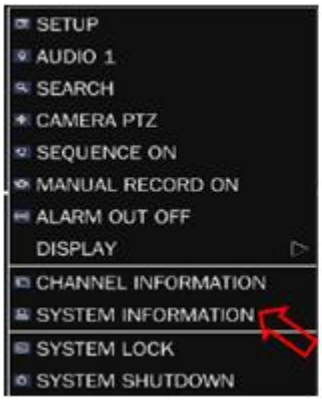
4. Set DDNS as SERVER1 and click button. Then EASY DDNS menu will display.
   - **Automatic Host name registration**
     i. Click AUTO button. Then the MAC Address of DVR will be registered automatically as a host name on DDNS.

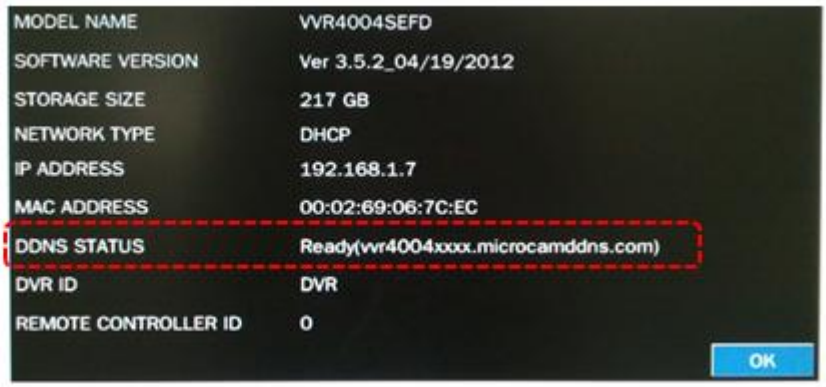


   - **Manual Host name registration**
     i. Click button. Then the keyboard window will display.

5. After an exit from SETUP menu, the bellow DDNS NOTIFY window will display.

6. In order to check the DDNS connection status, Right-click of mouse over the live screen and select SYSTEM INFORMATION.





12. NETWORK VIEWER

12-1. PC System Requirement

Minimum System Requirements

- Windows XP, Windows 7 Operating System
- Intel Dual Core 2.0 Ghz Processor
- 2GB RAM
- 256 MB+ nVidia or ATi Video Card
- DirectX 9.0C or Higher
- Disk Space 1 GB
- Mbps Download / 768 Kbps Upload Network Connection
- 1280x1024 Resolution Monitor

Recommended System Requirements

- Windows XP, Windows 7 Operating System
- Intel Quad Core 2.0 Ghz Processor
- 4GB RAM
- 512 MB+ nVidia or ATi Video Card
- DirectX 9.0C or Higher
- Disk Space 10 GB
- 7.1 Mbps Download / 1.0 Mbps Upload Network Connection
- 1920x1080 Resolution Monitor

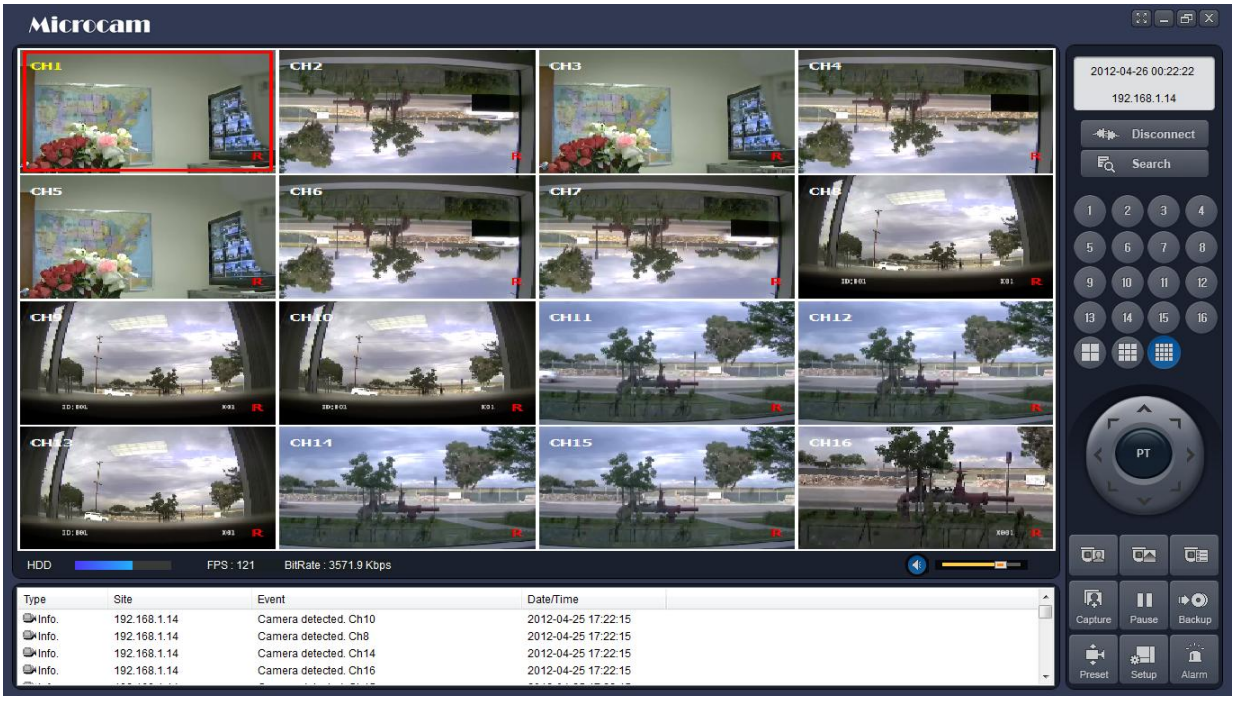
12-2. Installation

1. Insert the provided Software CD in the CD Drive and Double Click “Microcam Single Client.exe”

2. Select a destination folder and click “NEXT”

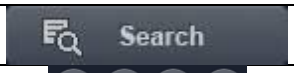
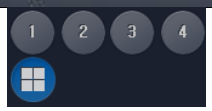
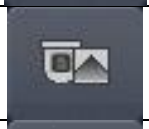
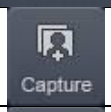
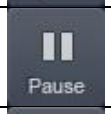
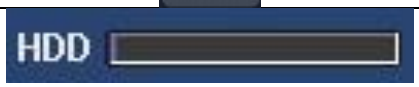
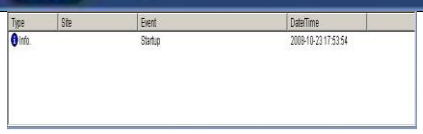
3. Select the Program Folder and click “NEXT”
4. The installation Process will begin.
5. After the installation is completed, “Microcam Single Client” icon will be displayed on the desktop.

12-3. Live Mode



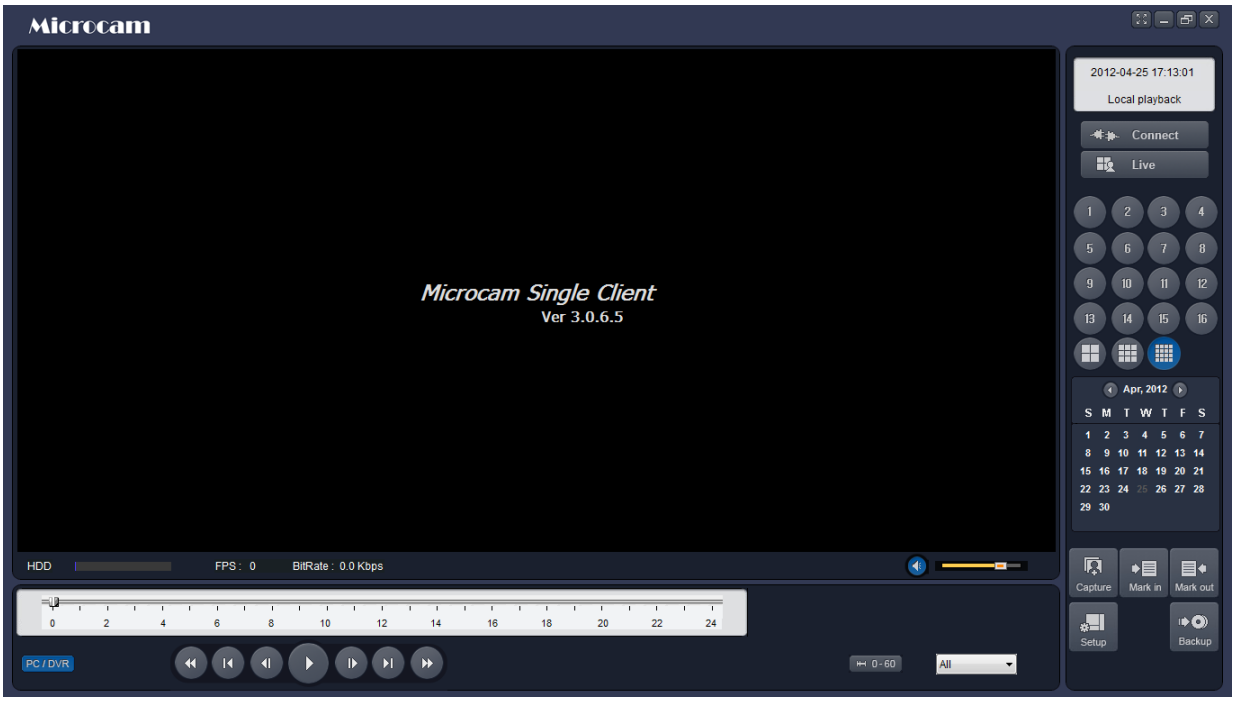
1. Right click on live streaming image and select either Main Streaming or Sub Streaming. Main Streaming option streams the actual recording quality video, and Sub streaming option streams at “Dual streaming” quality in Network menu.
   *** Please note Main Streaming requires a fast network uploading speed.**

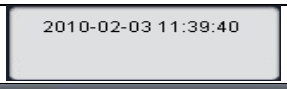
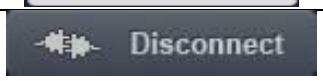
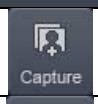
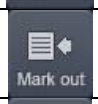
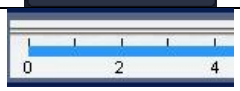
Button	Function	Description
2010-02-03 11:39:40	**DATE & TIME**	Displays the current DATE & TIME

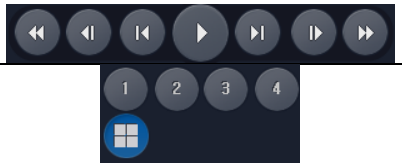
	CONNECT/DISCONNECT	Connect or Disconnect network connection
	**SEARCH**	Switches to SEARCH MODE
	**DISPLAY MODE**	Allows the user to select a CHANNEL or change the DISPLAY MODE
	PTZ	Allows the user to control the PTZ camera
	SCAN	Allows the user to scan the PTZ camera
	**TOUR**	Allows the user to tour the PTZ camera
	MENU	Allows the user to open the PTZ menu
	**CAPTURE**	Capture a still image from LIVE MODE
	**PAUSE**	Pause the frame during LIVE MODE
	BACKUP	Backup video from LIVE MODE
	PRESET	Allows user to change the PTZ Preset
	SETUP	Opens the SETUP MENU
	ALARM	Turn ON/OFF the ALARM-OUT
	**HDD USAGE**	Displays the current HDD Usage Status
	NETWORK BANDWIDTH	Displays real time FPS and Bit Rate
	AUDIO	Allows the user to ADJUST the AUDIO volume
	**LOG**	Displays the EVENT LOG, DATE and TIME

NOTE: DIGITAL ZOOM is only available in SINGLE CHANNEL viewing.

12-4. Search Mode



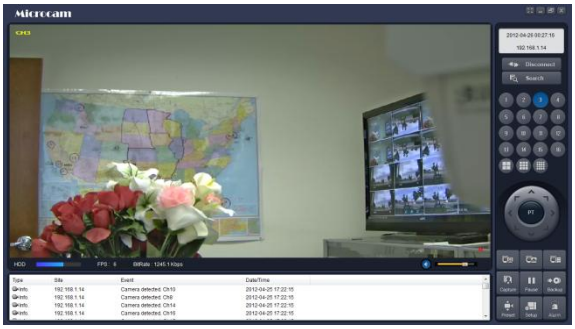
Button	Function	Description
	**DATE & TIME**	Displays the recording time of the data selected
	**CONNECT/DISCONNECT**	Connect or Disconnect network connection
	LIVE MODE	Switches to LIVE MODE
	**CAPTURE**	Capture a still image in SEARCH MODE
	MARK IN	Allows the user to set the starting time for video BACKUP
	**MARK OUT**	Allows the user to set the ending time for video BACKUP
	BACKUP	Allows the user to BACKUP the selected data
	SEARCH CALENDAR	The calendar displays recorded data in blue
	**TIMELINE BAR**	TIMELINE BAR of recorded data is displayed in blue

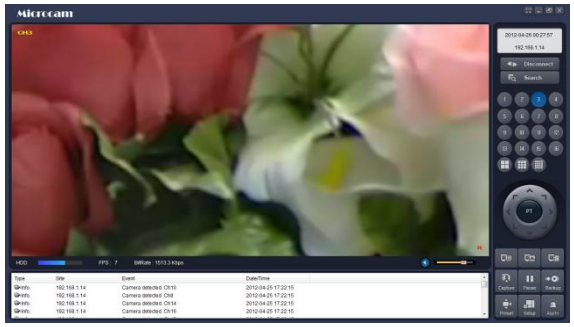
	**PLAYBACK BUTTONS**	Playback buttons
	DISPLAY MODE	Allows the user to select a CHANNEL or change the DISPLAY MODE

NOTE: DIGITAL ZOOM is only available in SINGLE CHANNEL viewing.

12-5. Operation

12-5-1. Digital Zoom

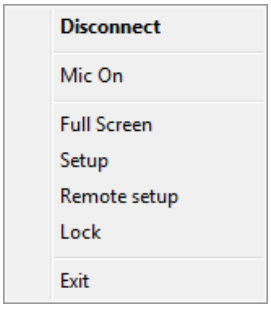




Digital Zoom allows the user to digitally zoom into any area during single channel viewing. Use the mouse scroll to digitally zoom in and zoom out. Digital zoom is available in both LIVE MODE and SEARCH MODE.

NOTE: DIGITAL ZOOM is only available in SINGLE CHANNEL viewing.

12-5-2. Full Screen Display



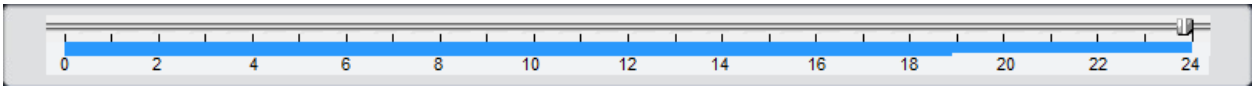
A single CHANNEL can be displayed in FULL SCREEN by selected FULL SCREEN in the SUB MENU. The SUB MENU can be opened by right clicking on a specific CHANNEL.

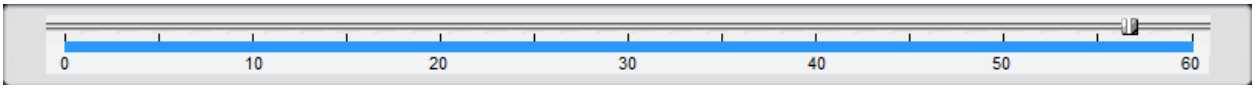
NOTE: DIGITAL ZOOM is only available in SINGLE CHANNEL viewing.

12-5-3. Playback Buttons

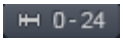
◀◀	**REW –** x1, x2, x4, x8, x16, x32 (Allows the user to REWIND during PLAYBACK)
|◀	**F/MIN –** 1 MINUTE, 1 SECOND (Allows the user to REWIND 1 MINUTE during PLAYBACK and 1 SECOND when PAUSED)
◀|	**F/REW –** FRAME REWIND (Allows the user to REWIND 1 FRAME during PLAYBACK)
▶/ II	**PLAY/PAUSE –** Allows user to PLAY or PAUSE during PLAYBACK.
▶|	**F/MIN –** 1 MINUTE, 1 SECOND (Allows the user to FAST FORWARD 1 MINUTE during PLAYBACK and 1 SECOND when PAUSED)
|▶	**F/ADV –** FRAME FORWARD (Allows the user to FORWARD 1 FRAME during PLAYBACK)
▶▶	**FF** – x1, x2, x4, x8, x16, x32 (Allows the user to FAST FORWARD during PLAYBACK)

12-5-4. Timeline Bar





TIMELINE BAR allows the user to select a specific PLAYBACK time.



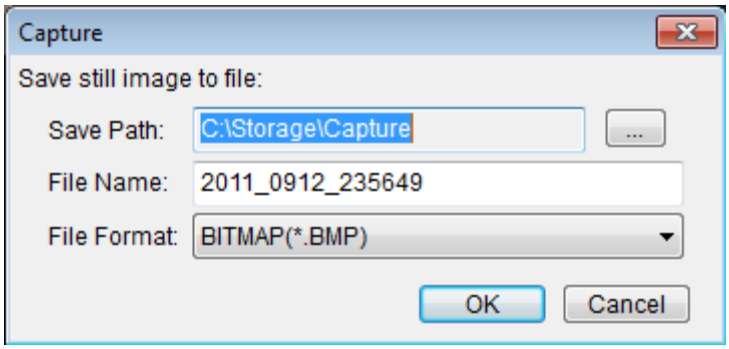
TIMELINE HOURS – Allows the user to DISPLAY the TIMELINE BAR in HOURS.

TIMELINE MINUTES – Allows the user to DISPLAY the TIMLEINE BAR in MINUTES.

12-5-5. Backup

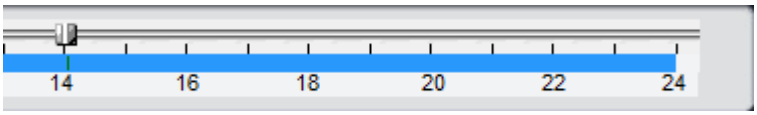
1

CAPTURE – Allows the user to CAPTURE a still image.



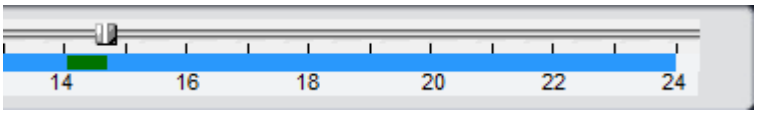
2

MARK IN – Allows the user to set the starting time for video BACKUP.



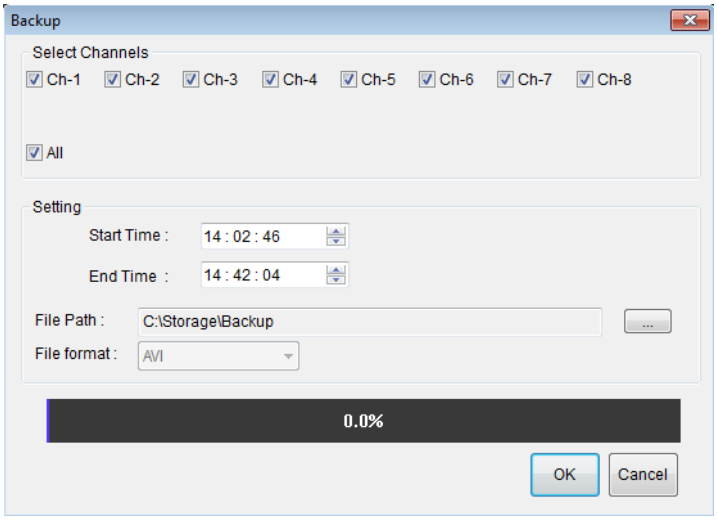
3

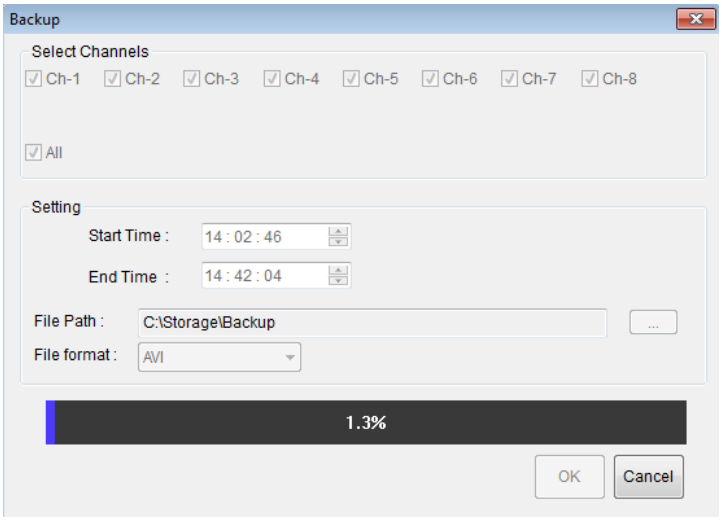
MARK OUT – Allows the user to set the ending time for video BACKUP.



4

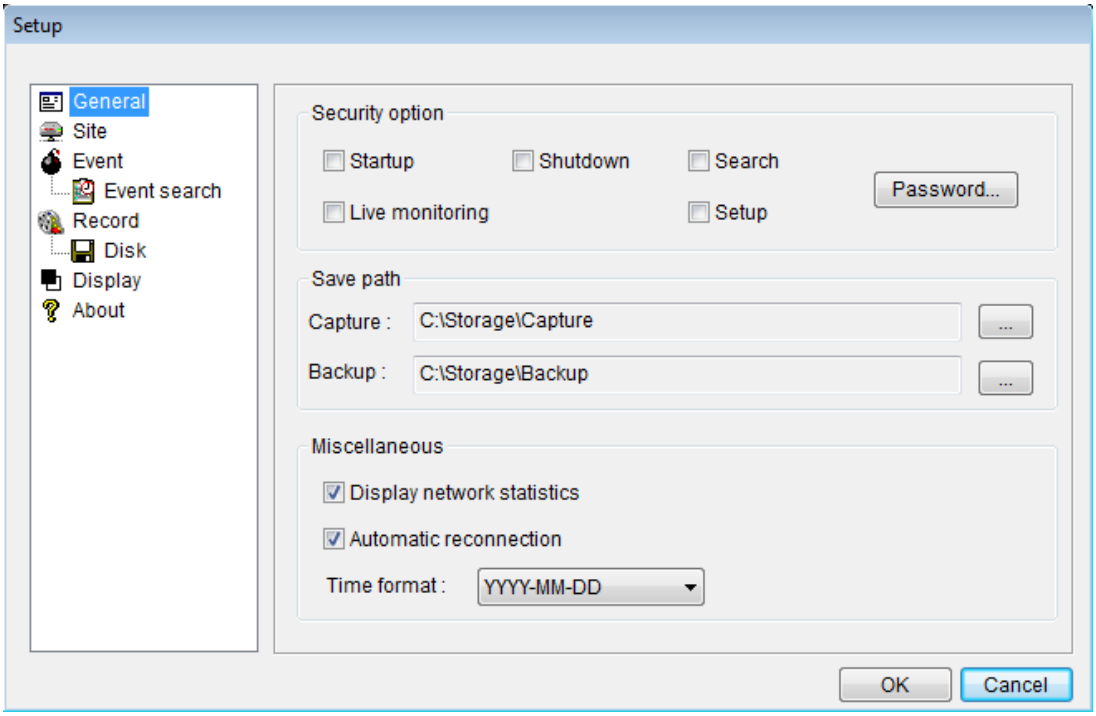
BACKUP – Allows the user to BACKUP the selected data.





12-6. Local Setup

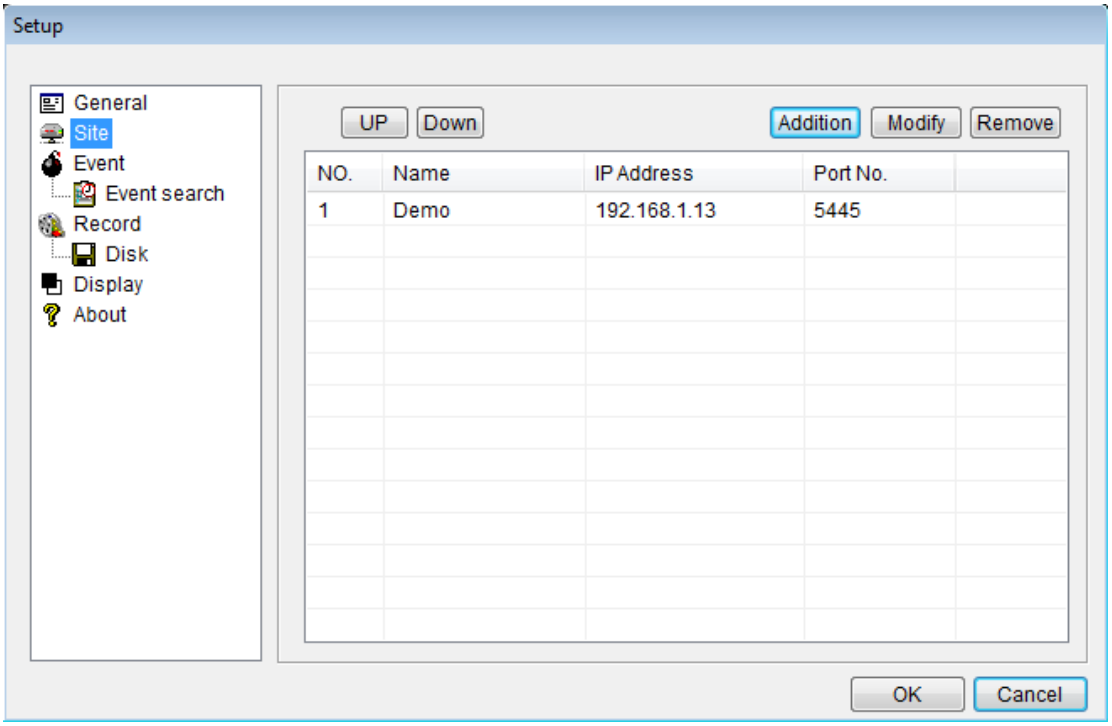
12-6-1. General



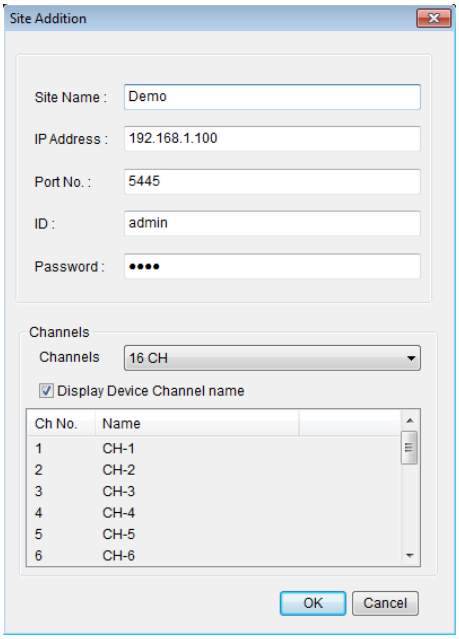
- **SECURITY OPTION**
  - **STARTUP –** Allows the user to enter a password during UMS STARTUP.
  - **SHUTDOWN –** Allows the user to enter a password during UMS SHUTDOWN.
  - **SEARCH –** Allows the user to enter a password during SEARCH.
  - **LIVE MONITORING –** Allows the user to enter a password during LIVE MONITORING.
  - **SETUP –** Allows the user to enter a password during SETUP.

- **SAVE PATH**
  - **CAPTURE –** Allows the user to change the CAPTURE SAVE PATH.
  - **BACKUP –** Allows the user to change the BACKUP SAVE PATH.
- **MISCELLANEOUS**
  - **DISPLAY NETWORK STATISTICS –** Allows the user Enable or Disable DISPLAY NETWORK STATISTICS.
  - **AUTOMATIC RECONNECTION –** Allows the user to Enable or Disable AUTOMATIC RECONNECTION.
  - **TIME FORMAT –** Allows the user to change the DATE FORMAT display from the following; YYYY/MM/DD, MM/DD/YYYY, DD/MM/YYYY, YYYY-MM-DD, MM-DD-YYYY, DD-MM-YYYY.

12-6-2.Site



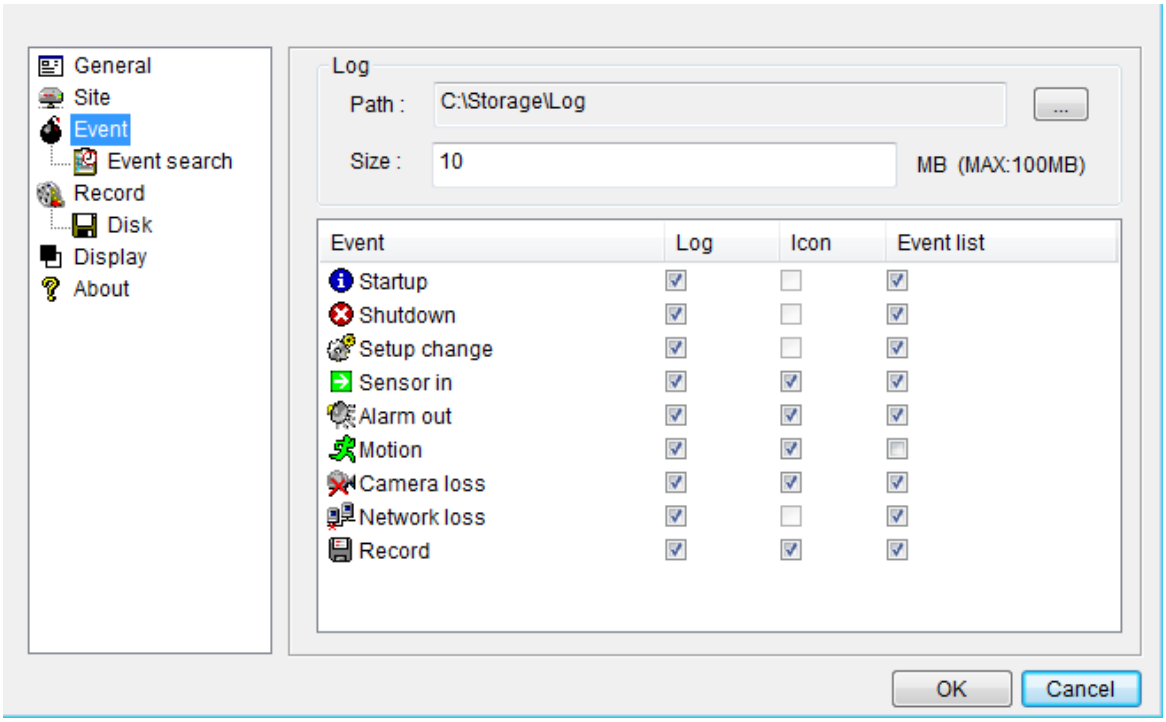
- **SITE ADDITION –** Allows the user to ADD a new SITE.



- **SITE NAME –** Allows the user to enter the specific SITE NAME.
- **IP ADDRESS –** Allows the user to enter the specific IP ADDRESS.
- **PORT NO. –** Allows the user to enter the specific PORT NO.
- **ID –** Allows the user to enter the specific ID.
- **PASSWORD –** Allows the user to enter the specific PASSWORD.
- **CHANNELS –** Allows the user to select the DVR CHANNELS.
  - **DISPLAY DEVEICE CHANNEL NAME –** Allows the user to Enable or Disable the DISPLAY DEVICE CHANNEL NAME.

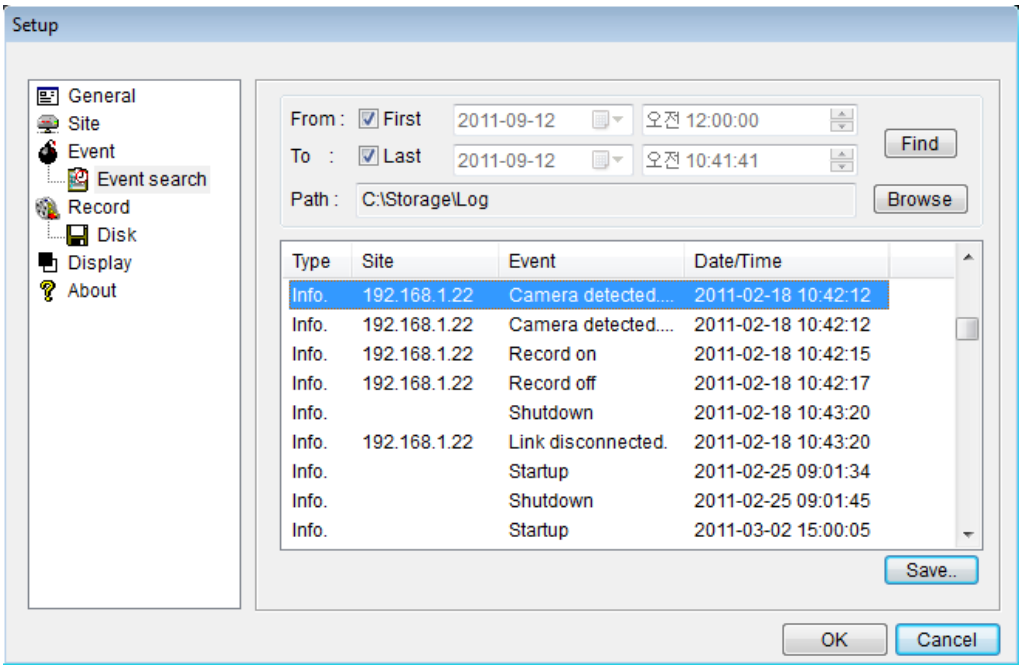
- **SITE MODIFY –** Allows the user to MODIFY an existing SITE.

12-6-3. Event



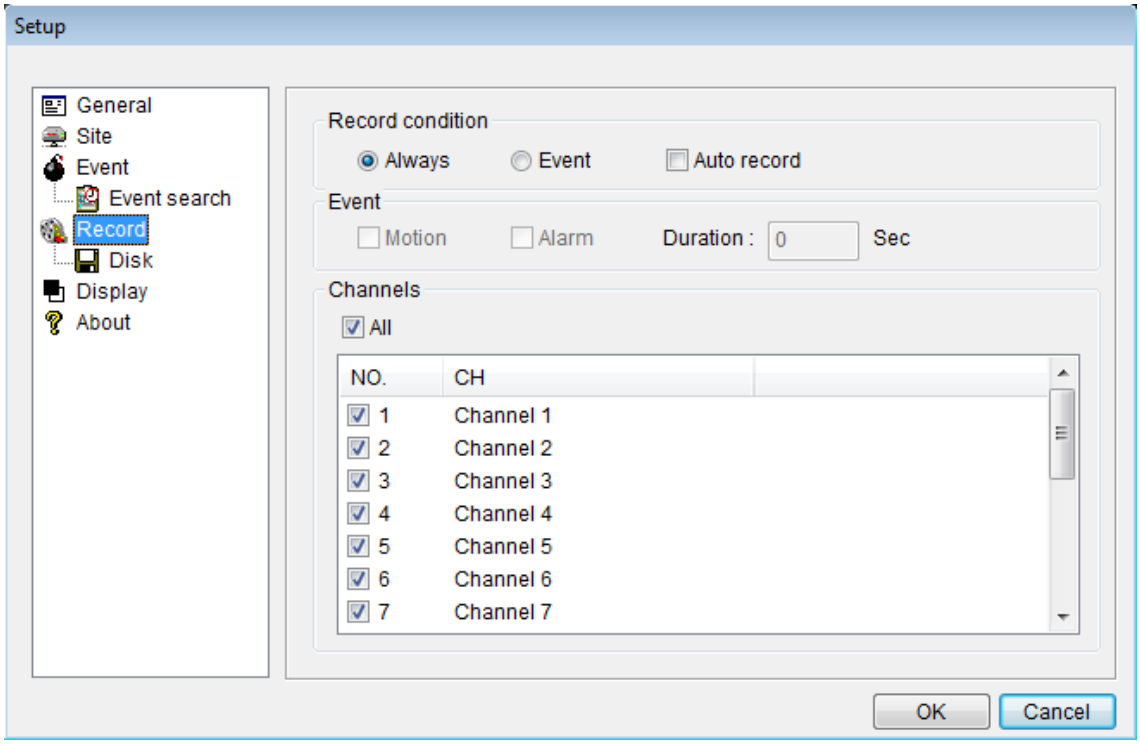
- **PATH –** Allows the user to change the LOG SAVE PATH.
- **SIZE –** Allows the user to set the LOG SIZE.
- **EVENT –** Allows the user to set the EVENT LOG, ICON, EVENT LIST.
    - **LOG –** Allows the user to ENABLE or DISABLE LOG for the following options; STARUP, SHUTDOWN, SETUP CHANGE, SENESOR IN, ALARM OUT, MOTION, CAMERA LOSS, NETWORK LOSS, RECORD
    - **ICON –** Allows the user to ENABLE or DISABLE ICON DISPLAY in the LOG WINDOW for the following options; STARUP, SHUTDOWN, SETUP CHANGE, SENESOR IN, ALARM OUT, MOTION, CAMERA LOSS, NETWORK LOSS, RECORD
    - **EVENT LIST –** Allows the user to ENABLE or DISABLE EVENT LOG for the following options; STARUP, SHUTDOWN, SETUP CHANGE, SENESOR IN, ALARM OUT, MOTION, CAMERA LOSS, NETWORK LOSS, RECORD

12-6-4. Event Search



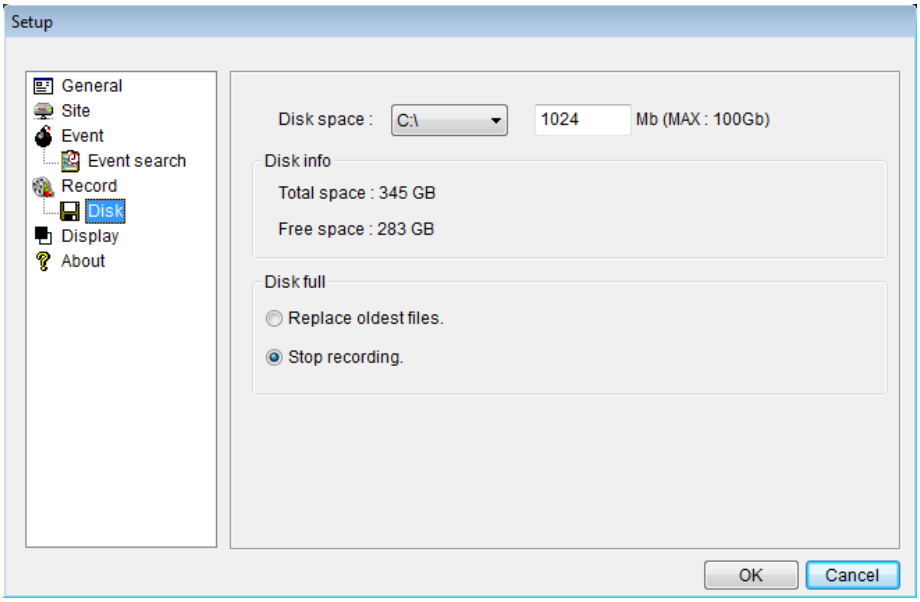
- **FROM –** Allows the user to set the FIRST DATE and TIME for EVENT SEARCH.
- **TO –** Allows the user to set the LAST DATE and TIME for EVENT SEARCH.
- **FIND –** Allows the user to FIND the EVENT SEARCH for the selected DATE and TIME.
- **PATH –** Allows the user to change the EVENT SEARCH LOG path.
- **SAVE –** Allows the user to SAVE the EVENT SEARCH LOG.

12-6-5. Record



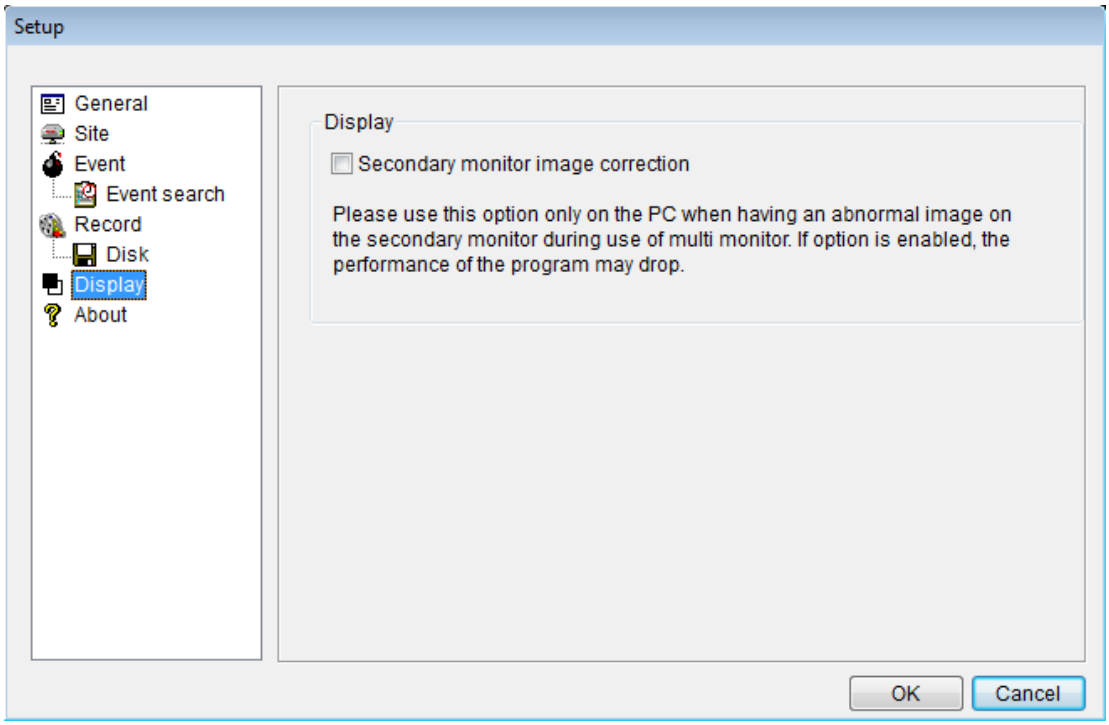
- **RECORD CONDITION –** ALWAYS, EVENT, AUTO RECORD (Allows the user to set the RECORD CONDITION)
    - **ALWAYS –** Allows the user to ALWAYS RECORD when CONNECTED to a SITE.
    - **EVENT –** Allows the user to RECORD when an EVENT is TRIGGERED.
    - **AUTO RECORD –**
- **EVENT –** Allows the user to set the EVENT RECORD CONDITION.
    - **MOTION –** Enable or Disable MOTION EVENT for RECORD CONDITION.
    - **ALARM –** Enable or Disable ALARM EVENT for RECORD CONDITION.
    - **DURATION –** 1 ~ 3000 (Allows the user to set the EVENT DURATION in SECONDS)
- **CHANNELS –** CH 1 ~ CH 16 (Allows the user to select specific CHANNELS for RECORD CONDITION)

12-6-6. Disk



- **DISK SPACE –** 1MB ~ 100GB (Allows the user to set the RECORDING PATH and SIZE LIMIT)
- **DISK INFO –** Displays the current DISK INFO.
    - **TOTAL SPACE –** Displays the TOTAL SPACE of the DISK.
    - **FREE SPACE –** Displays the remaining FREE SPACE of the DISK.
- **DISK FULL –** Allows the user to set the action when the DISK is FULL.
    - **REPLACE OLDEST FILES –** Allows the user to Enable or Disable OVERWRITE when the DISK is FULL.
    - **STOP RECORDING –** Allows the user to Enable or Disable STOP RECORDING when the DISK is FULL.

12-6-7.Display



- **SECONDARY MONITOR IMAGE CORRECTION –** Allows the user to ENABLE or DISABLE SECONDARY MONITOR IMAGE CORRECTION when using a secondary monitor.

13. CMS

13-1. PC System Requirement

Minimum System Requirements

- Windows XP, Windows 7 Operating System
- Intel Dual Core 2.0 Ghz Processor
- 2GB RAM
- 256 MB+ nVidia or ATi Video Card
- DirectX 9.0C or Higher
- Disk Space 1 GB
- Mbps Download / 768 Kbps Upload Network Connection
- 1280x1024 Resolution Monitor

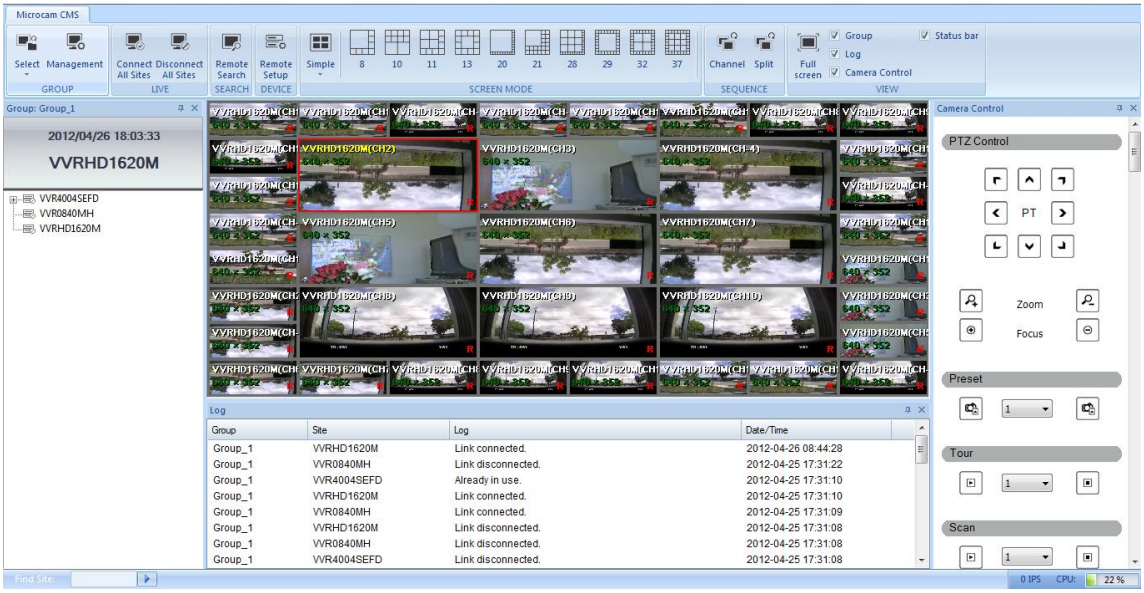
Recommended System Requirements

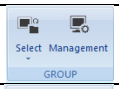
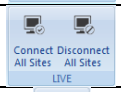
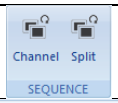
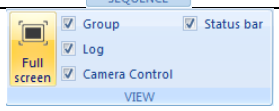
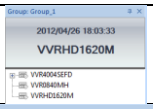
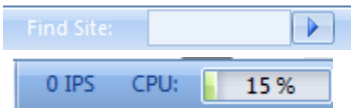
- Windows XP, Windows 7 Operating System
- Intel Quad Core 2.0 Ghz Processor
- 4GB RAM
- 512 MB+ nVidia or ATi Video Card
- DirectX 9.0C or Higher
- Disk Space 10 GB
- Mbps Download / 1.0 Mbps Upload Network Connection
- 1920x1080 Resolution Monitor

13-2. Installation

1. Insert the provided Software CD in the CD Drive and Double Click “Microcam CMS.exe”
2. Select a destination folder and click “NEXT”
3. Select the Program Folder and click “NEXT”
4. The installation Process will begin.
5. After the installation is completed, “Microcam CMS” icon will be displayed on the desktop.

13-2. Live Mode



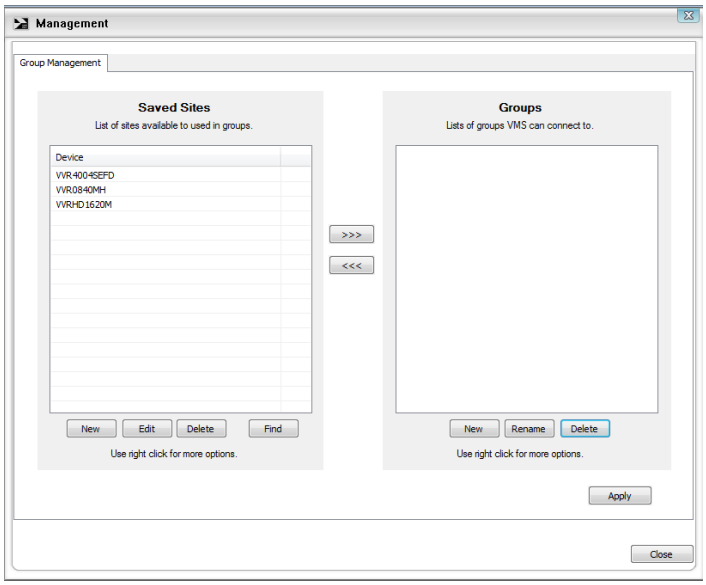
Button	Function	Description
	**GROUP**	Allows the user to select and manage a group.
	**LIVE**	CONNECT to selected SITES DISCONNECT from selected SITES
	SEARCH	Playback recorded data on remote DVR
	DEVICE	Allows the user to access remote DVR for remote setting.
	SCREEN MODE	Allows user to switch selected SCREEN SPLIT MODE
	**SEQUENCE**	Enable/Disable SEQUENCE on selected SITE
	**VIEW**	ON/OFF GROUP window display ON/OFF LOG window display ON/OFF CAMERA CONTROL window display
	**GROUP**	Shows GROUP information
	LOG	Shows LOG information
	CAMERA CONTROL	Shows CAMERA CONTROL OSD
	**STATUS BAR**	Shows STATUS BAR

13-3. Operations

13-3-1. Group Management

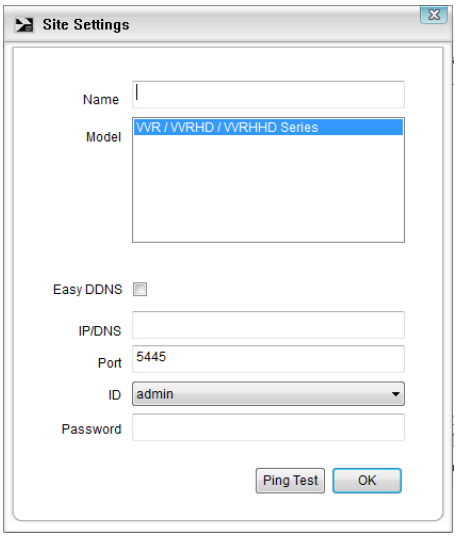
1. Click

button. Then MANAGEMENT window will display.

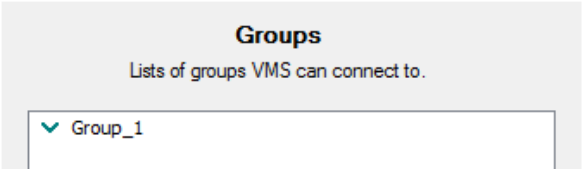


2. Click

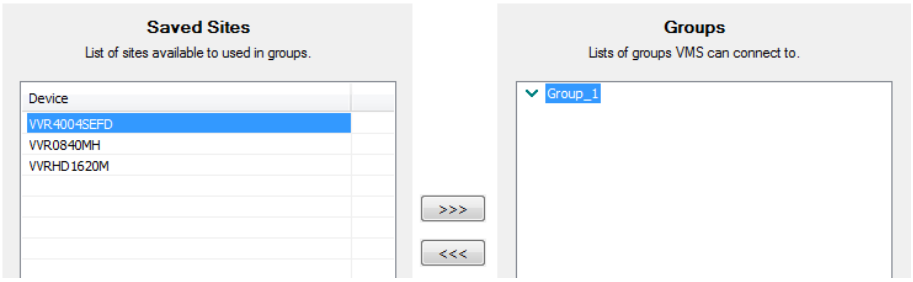
button to add new site.



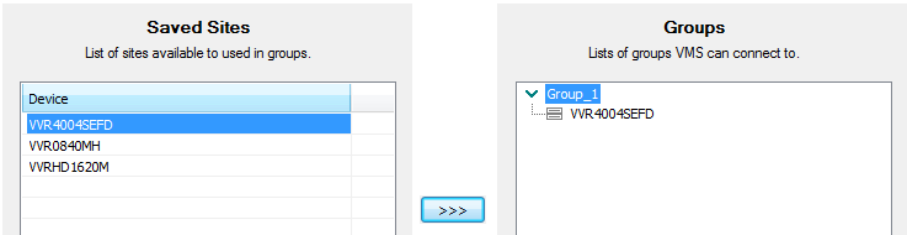
3. Input the proper site information.
4. Click button. Then “Group-1” will be generated.



5. Click the site on SAVED SITES and the group on GROUPS. And click



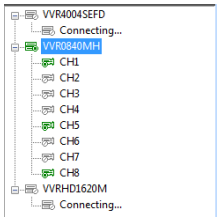
6. **Click** **to add the site to the group.**



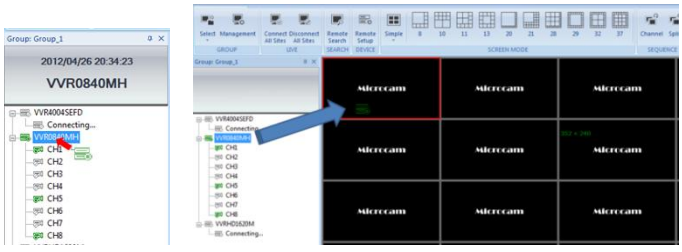
7. **Click** **button to apply.**

13-3-2. Connection

1. Click button.
2. Group window will show the connection process status. The icon color of connected site and channel will changed in to Green .



3. Click and hold the connected site or channel and drag over live display window.



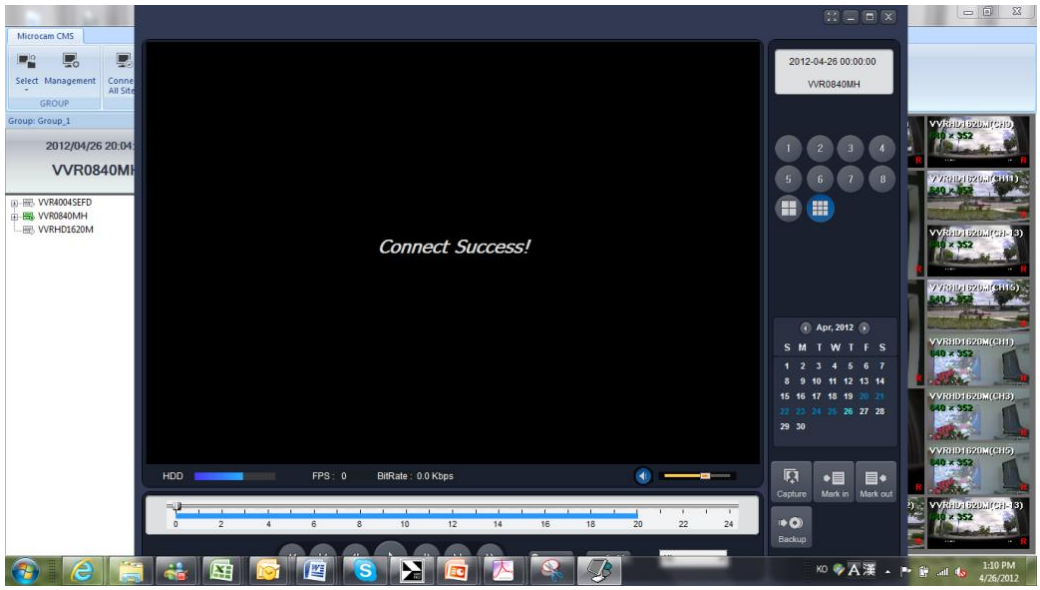
4. The selected site will be connected.

13-3-3. Playback

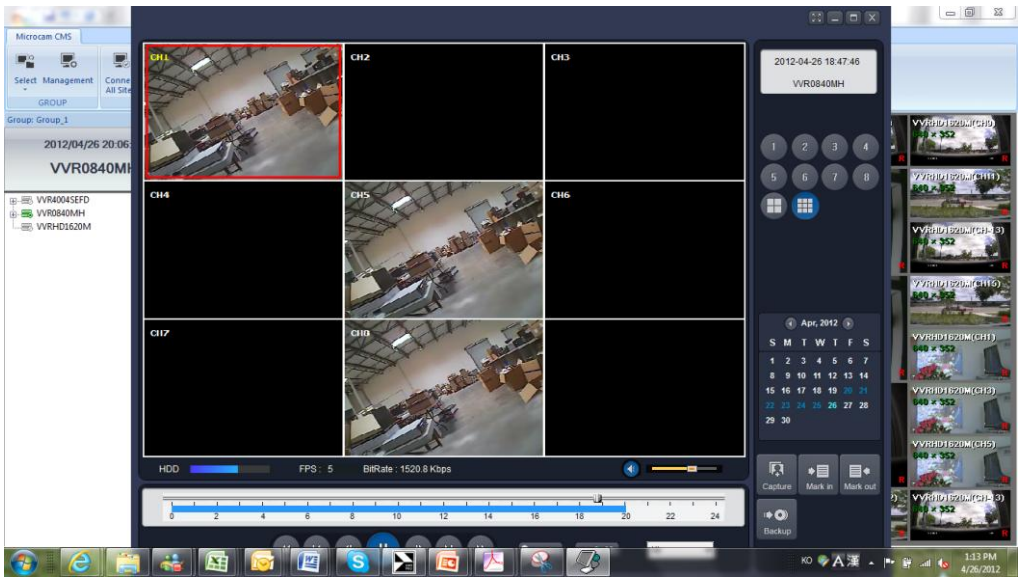
1. Select the site from GROUP window

2. Click

button. Then Remote Search Widow will display.



3. Select the target date and time. And click button to playback.



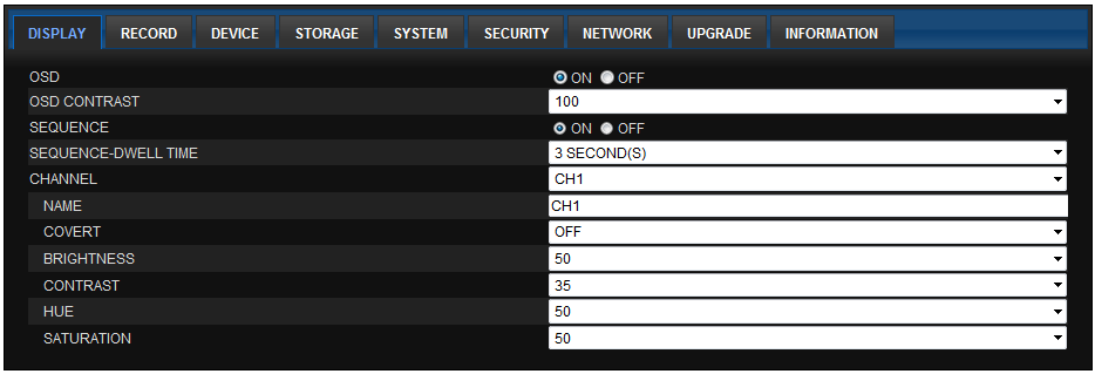
13-3-4. Setup

1. Select the site from GROUP window

2. Click

button. Then Remote Setup Login Widow will display.

3. Enter the password. Then the setup menu will display. (NOTE: The default password is 1111)



14. Web Client

14-1. PC System Requirement

Minimum System Requirements

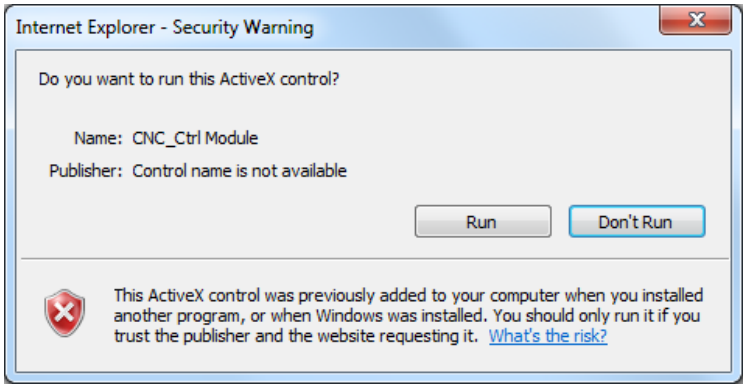
- Windows XP, Windows 7 Operating System
- Intel Dual Core 2.0 Ghz Processor
- 2GB RAM
- 256 MB+ nVidia or ATi Video Card
- DirectX 9.0C or Higher
- Disk Space 1 GB
- Mbps Download / 768 Kbps Upload Network Connection
- 1280x1024 Resolution Monitor

Recommended System Requirements

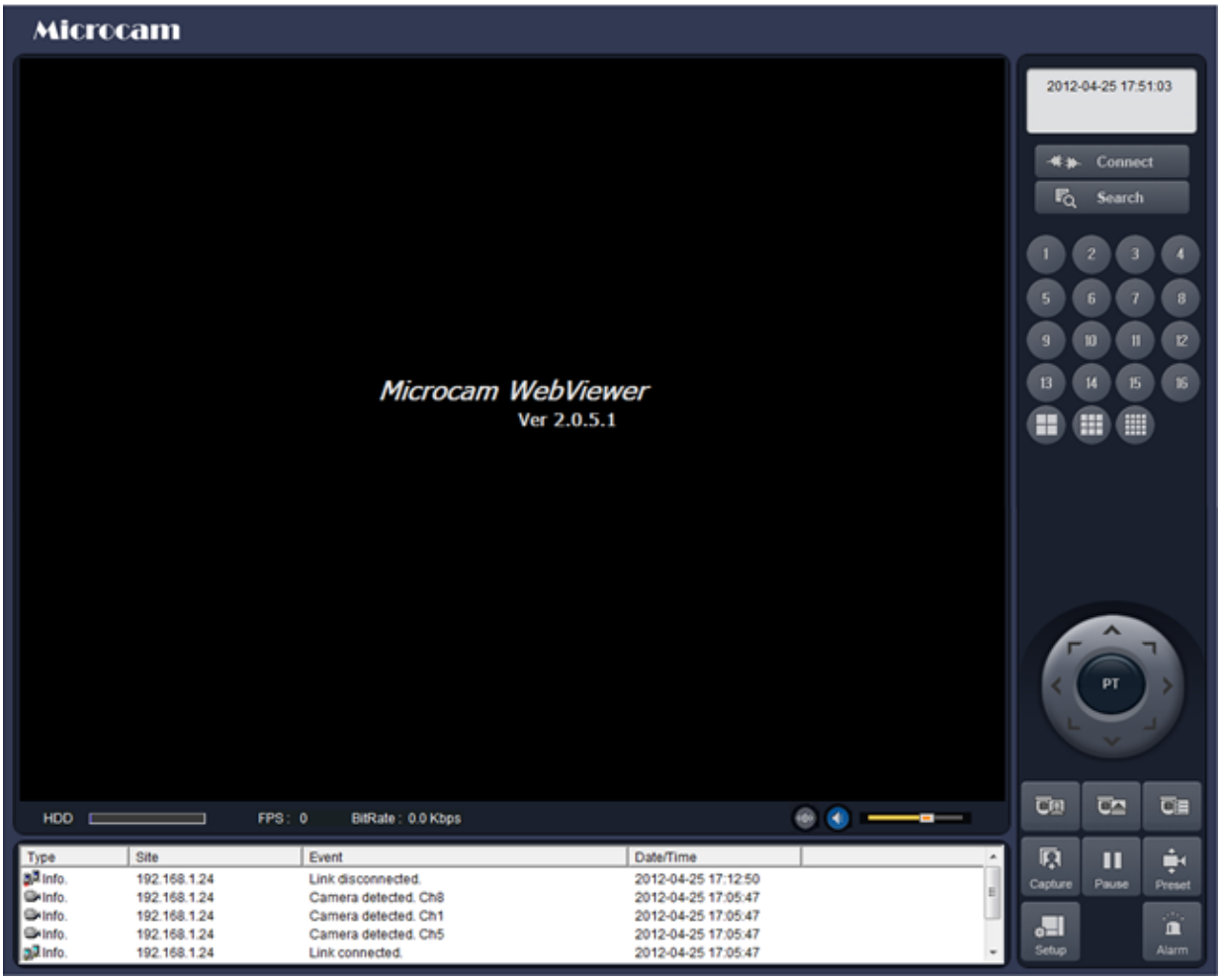
- Windows XP, Windows 7 Operating System
- Intel Quad Core 2.0 Ghz Processor
- 4GB RAM
- 512 MB+ nVidia or ATi Video Card
- DirectX 9.0C or Higher
- Disk Space 10 GB
- Mbps Download / 1.0 Mbps Upload Network Connection
- 1920x1080 Resolution Monitor

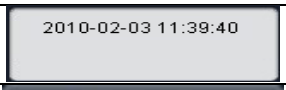
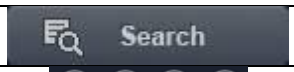
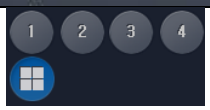
14-2. Installation

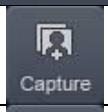
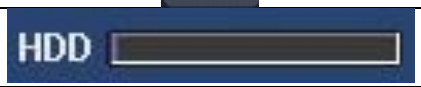
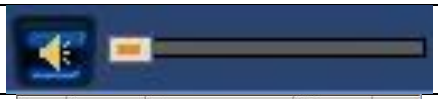
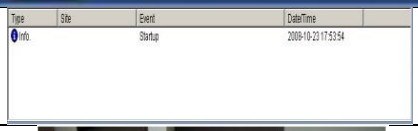
1. Open Internet Explorer and enter the IP address or the domain name of the DVR to open the Web Client.
2. Install the ActiveX when prompted.



14-3. Live Mode



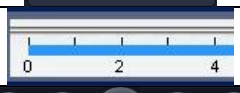
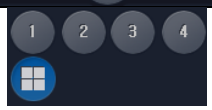
Button	Function	Description
	**DATE & TIME**	Displays the current DATE & TIME
	CONNECT/DISCONNECT	Connect or Disconnect network connection
	**SEARCH**	Switches to SEARCH MODE
	**DISPLAY MODE**	Allows the user to select a CHANNEL or change the DISPLAY MODE
	PTZ	Allows the user to control the PTZ camera
	SCAN	Allows the user to scan the PTZ camera
	TOUR	Allows the user to tour the PTZ camera

	MENU	Allows the user to open the PTZ menu
	**CAPTURE**	Capture a still image from LIVE MODE
	PAUSE	Pause the frame during LIVE MODE
	PRESET	Allows the user to change the PTZ Preset
	SETUP	Opens the SETUP MENU
	**HDD USAGE**	Displays the current HDD Usage Status
	NETWORK BANDWIDTH	Displays real time FPS and BitRate
	**AUDIO**	Allows the user to ADJUST the AUDIO volume
	**LOG**	Displays the EVENT LOG, DATE and TIME
	DIGITAL ZOOM	Allows the user to DIGITAL ZOOM during LIVE MODE and SEARCH MODE

NOTE: DIGITAL ZOOM is only available in SINGLE CHANNEL viewing.

14-4. Search Mode

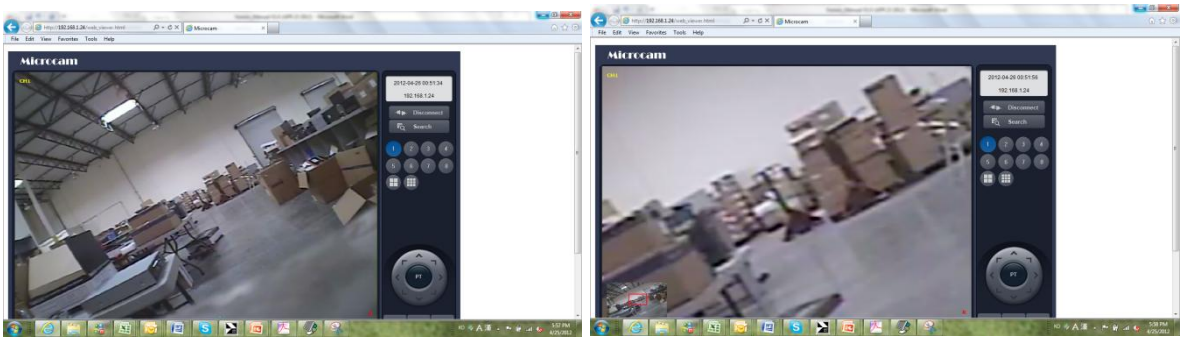
Button	Function	Description
2010-02-03 11:39:40	**DATE & TIME**	Displays the recording time of the data selected
Disconnect	**CONNECT/DISCONNECT**	Connect or Disconnect network connection
Live	**LIVE MODE**	Switches to LIVE MODE
Capture	**CAPTURE**	Capture a still image in SEARCH MODE
Mark in	**MARK IN**	Allows the user to set the starting time for video BACKUP
Mark out	**MARK OUT**	Allows the user to set the ending time for video BACKUP
Backup	**BACKUP**	Allows the user to BACKUP the selected data

	SEARCH CALENDAR	The calendar displays recorded data in blue
	**TIMELINE BAR**	TIMELINE BAR of recorded data is displayed in blue
	PLAYBACK BUTTONS	Playback the buttons
	**DISPLAY MODE**	Allows the user to select a CHANNEL or change the DISPLAY MODE
	DIGITAL ZOOM	Allows the user to DIGITAL ZOOM during LIVE MODE and SEARCH MODE

NOTE: DIGITAL ZOOM is only available in SINGLE CHANNEL viewing.

14-5. Operations

14-5-1. Digital Zoom



Digital Zoom allows the user to digitally zoom into any area during single channel viewing. Use the mouse scroll to digitally zoom in and zoom out. Digital zoom is available in both LIVE MODE and SEARCH MODE.

NOTE: DIGITAL ZOOM is only available in SINGLE CHANNEL viewing.

14-5-2. Playback Buttons

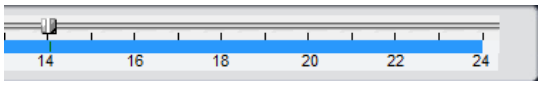
◀◀	**REW –** x1, x2, x4, x8, x16, x32 (Allows the user to REWIND during PLAYBACK)
|◀	**F/MIN –** 1 MINUTE, 1 SECOND (Allows the user to REWIND 1 MINUTE during PLAYBACK and 1 SECOND when PAUSED)
◀|	**F/REW –** FRAME REWIND (Allows the user to REWIND 1 FRAME during PLAYBACK)
▶/ II	**PLAY/PAUSE –** Allows the user to PLAY or PAUSE during PLAYBACK.
▶|	**F/MIN –** 1 MINUTE, 1 SECOND (Allows the user to FAST FORWARD 1 MINUTE during PLAYBACK and 1 SECOND when PAUSED)
|▶	**F/ADV –** FRAME FORWARD (Allows the user to FORWARD 1 FRAME during PLAYBACK)
▶▶	**FF** – x1, x2, x4, x8, x16, x32 (Allows the user to FAST FORWARD during PLAYBACK)

14-5-3. Web Client Backup

1.

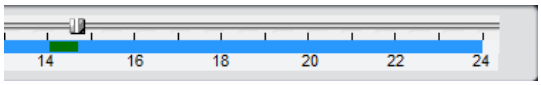
CAPTURE – Allows the user to CAPTURE a still image.
2.

MARK IN – Allows the user to set the starting time for video BACKUP.



3.

MARK OUT – Allows the user to set the ending time for video BACKUP.



4.

BACKUP – Allows the user to BACKUP the selected data.

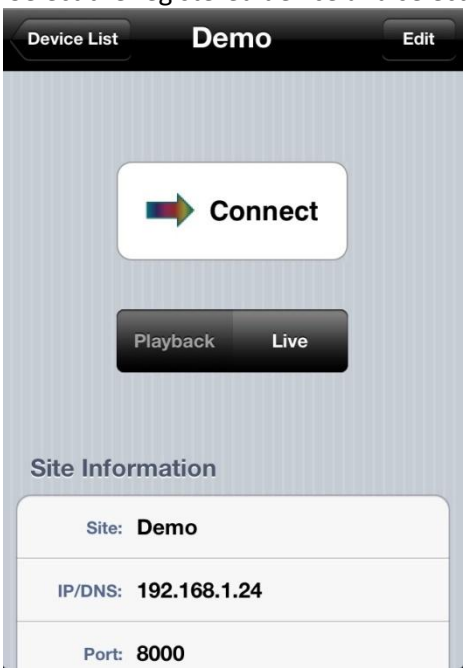
15. Smartphone Viewer App

15-1. Viewer for iPhone

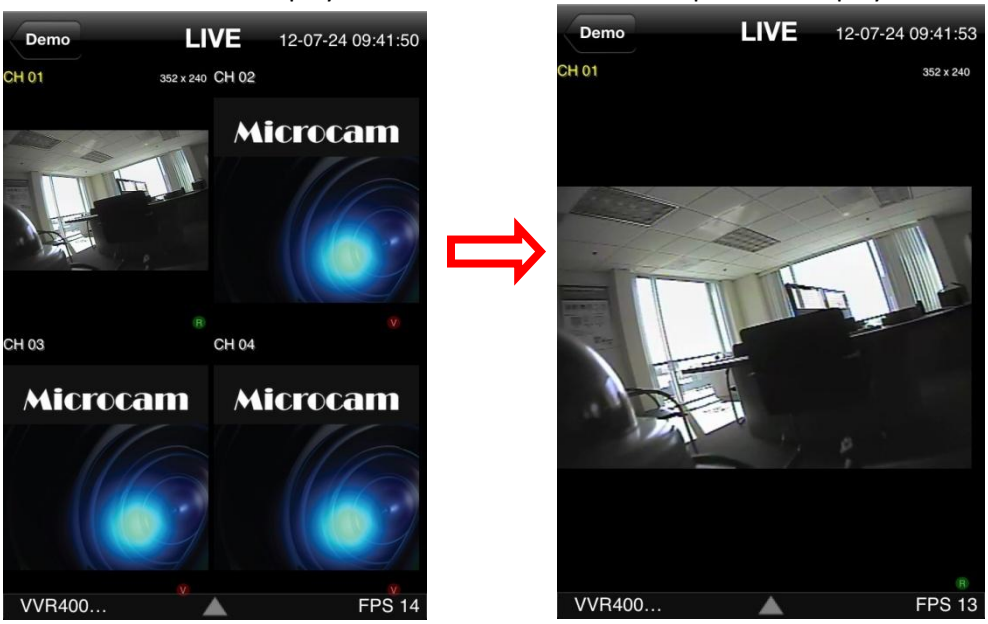
1. Enter the Apple App Store.
2. Search “Microcam” in the App Store.

15-1-1. Live

1. Open the “Microcam” App has been installed, select the “+” to add a device.
2. Select the registered device and select “Live” or Playback” and select “Connect” .



3. The app will display all channels when connected to the device. Double tap the screen to switch to a 1 channel display or vice versa to return to the previous display mode.

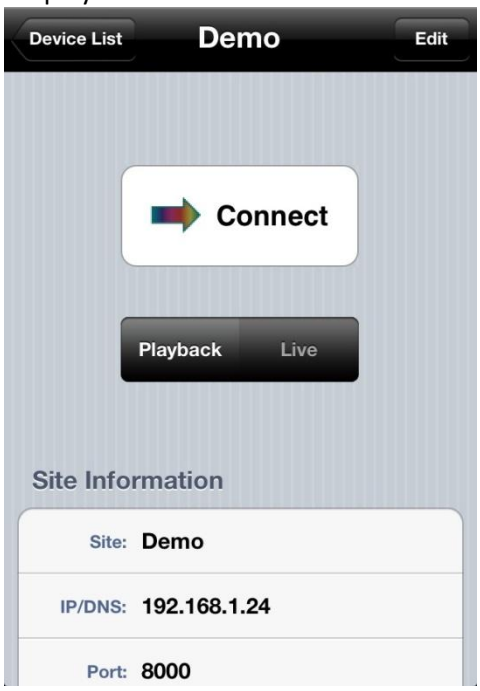


15-1-2.PTZ Control

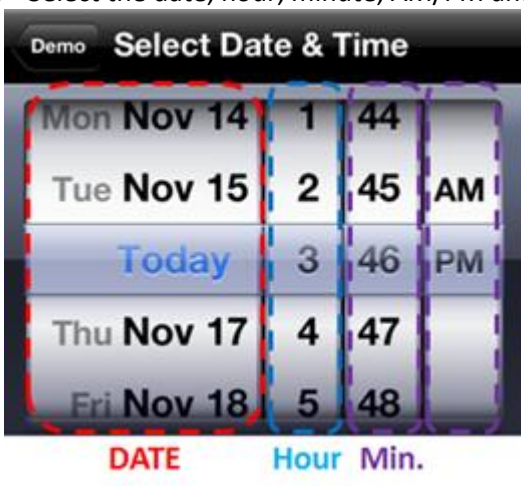
To control the PTZ functions of the camera, tap the menu button. Then PTZ menu icons will display. Using the PTZ icon on the screen, control PTZF control.

15-1-3. Playback

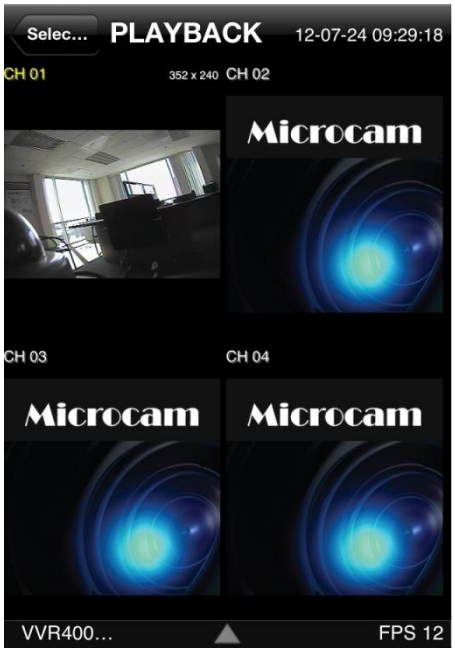
1. Select the registered device and select the channels up to 4 channels to search and playback. Select Mode as 'Playback' Playback and click 'Connect' . Then the search window will display.



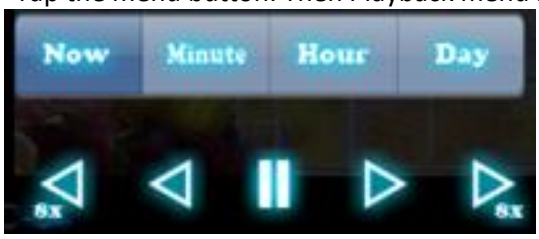
2. Select the date, hour, minute, AM/PM and click 'Connect & Play' .



3. The app will display the selected channel(s).



4. Tap the menu button. Then Playback menu icons will display.

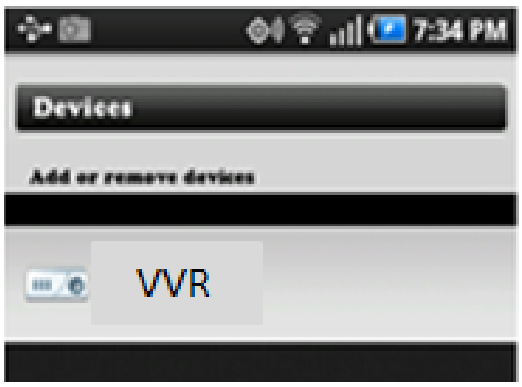


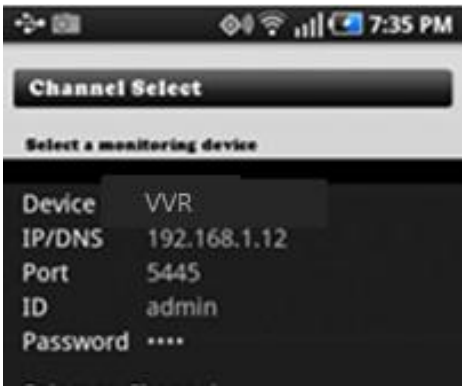
15-2. Viewer for Android Phone

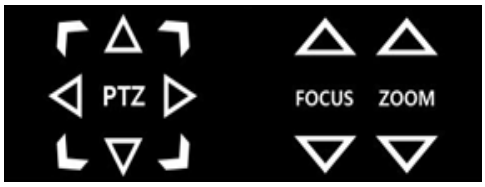
1. Enter the Android Google Play Store.
2. Search “Microcam” in the Android Market and install the app.

15-2-1. Live/Playback

1. Open the installed “Microcam” App and select the “Live View / Playback”. Then click the menu button of the phone to add a remote device.
2. Select the registered device and select the channels to monitor up to 4 channels. Then press SELECT button.





3. The app will display the selected channel(s).

4. To control the PTZ function of the camera, tap the channel screen, then the channel name will be highlighted in Yellow. Using the PTZ menu icons on the screen, control PTZF control.